



The  
PRESCRIBER'S  
PHARMACOPEIA

1899-1900

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**KEMP & Co.'s**  
**PRESCRIBERS' PHARMACOPŒIA,**  
A SYNOPSIS  
*OF THE MORE RECENT REMEDIES,*  
*OFFICIAL AND UNOFFICIAL,*  
WITH A  
THERAPEUTIC INDEX.

---

*FOURTH EDITION.*

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**KEMP & Co., Ltd.,**  
*Wholesale and Manufacturing Chemists,*  
**BOMBAY.**

London Office: 84, LEADENHALL STREET, E.C.

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1899.

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## PRESS OPINIONS.

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In the last Edition we printed seven pages of extracts from the Pharmaceutical Press, all over the world, and also from all the leading Newspapers in India favourably reviewing the "Prescribers' Pharmacopœia." Since that time we have constantly received gratifying communications from Medical men, showing the work has filled a decided want. We omit the criticisms in this Edition, space being valuable.

# CONTENTS.

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	PAGE
Preface     ...     ...     ...     ...     ...     ...     ...	iii
British Pharmacopœia, 1898     ...     ...     ...     ...	vi
List of Abbreviations     ...     ...     ...     ...     ...	ix
The Prescribers' Pharmacopœia...     ...     ...     ...	1
Urinary Testing     ...     ...     ...     ...     ...	308
General Testing     ...     ...     ...     ...     ...	313
The Metric System     ...     ...     ...     ...     ...	315
Fahrenheit, Centigrade, and Réaumur Scales     ...	317
Therapeutic Index     ...     ...     ...     ...     ...	318
General Index     ...     ...     ...     ...     ...	332

## PREFACE TO THE FOURTH EDITION.

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THE reception accorded to the Third Edition of the "Prescribers' Pharmacopœia" has been very gratifying.

In this, the Fourth Edition, we have endeavoured to keep abreast with the rush of new remedies, a very large number of which are here noted; and have added such INDIAN DRUGS, as have been enquired for since the last Edition.

The alterations entailed by the publication of the British Pharmacopœia (see page vi) are all carefully noted, and the necessary alterations made when they are mentioned in the text.

We take this opportunity of thanking our numerous correspondents for their friendly suggestions, all of which we were pleased to receive, and they have been acted on where practicable.

KEMP & Co., Ld.

SASOON HOUSE,  
*Bombay, September 1899.*

## PREFACE TO THE THIRD EDITION.

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THE issue of a third Edition of "Kemp's Prescribers' Pharmacopœia" becomes necessary by the exhaustion of the previous edition. It is also necessary that, in these days of continued additions to the drug series, and special drug compositions, our constituents should be kept as fully informed as possible on the subject of modern therapeutics. We trust, therefore, that the present edition will supply an existing necessity and an existing want.

The chief alterations that have been made in the present edition will possibly be regarded as improvements. We have added a large number of new remedies, revised the therapeutical index and altered the book to a more convenient size.

Our previous efforts to supply medical men with a good and "up-to-date" Prescribers' Pharmacopœia have been cordially appreciated by our constituents, and we trust this third edition will be similarly received. Should any errors or omissions be found, it will afford us pleasure to make such changes as may be suggested by the experience of our friends.

KEMP & Co., Ltd.,  
SASSOON HOUSE,  
BOMBAY.

## PREFACE TO THE SECOND EDITION.

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THE cordial reception accorded to the first edition of this work has assured us that such a book supplies a want much felt among medical men in India. The entire edition having been disposed of in less than fifteen months, we decided to bring out a revised and extended edition without delay. Every facility has been afforded to the compiler to obtain the latest and most accurate information on the subject treated of.

We desire to record our indebtedness to those Physicians who have kindly come forward with their suggestions, and whose experience has been a material aid to the compiler in his work; and we again invite the medical men of India to assist us, and, through the medium of this little work, render some assistance to their professional brethren.

KEMP & Co., LD.

BOMBAY,

March, 1891.

*The entire edition having been sold out, the work has been reprinted; and the opportunity has been taken of making a few necessary alterations and additions in the text.*

November 1891.

# British Pharmacopœia, 1898.

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THROUGHOUT the whole of the "Prescribers' Pharmacopœia," where British Pharmacopœia preparations are mentioned, *the changes are carefully noted*, and are thus brought to the attention of Medical men. The *changes in Nomenclature*, tend to greater accuracy, the new nomenclature only being herein used. Hydrochlorates of the alkaloids are now described as HYDROCHLORIDES, Hydrates as HYDROXIDES. Chemical substances are now scientifically described, Acid : Carbolicum = PHENOL; Hydrargyri Iodidi Rubrum = MERCURIC IODIDE. The green extracts of Belladonna and Henbane have "Viride" attached.

WEIGHTS AND MEASURES.—In the British Pharmacopœia of 1898 the Imperial (and avoirdupois) weights and measures are as before, but metric weights and measures are added. These are not *equivalent* to the Imperial. In the Prescribers' Pharmacopœia the doses are given in both the Imperial and Metric systems.



## The following Preparations are stronger:—

Infusum Ergotæ.	Lamella Cocainæ.
Liquor Epispasticus.	Pilula Phosphori.
Pilula Saponis Composita.	Spiritus Cajeputi.
Spiritus Cinnamomi.	Spiritus Juniperi.
Spiritus Lavandulæ.	Spiritus Menthæ Piperitæ.
Spiritus Myristicæ.	Spiritus Rosemarini.
Tinctura Belladonnæ.	Tinctura Chloroformi et Mor- phinæ Composita.
Tinctura Nucis Vomicae.	Tinctura Podophylli.
Tinctura Quassia.	Tinctura Scillæ.
Tinctures of Asafœtida, Buchu, Cascarilla, Gatechu, Ci- nna- mon, Colchicum Seeds, Hemlock, Cubebs, Krameria, Lobelia- (Æthereal) Hops, Myrrh, Squill, Senega, Senna, Serpen- tary and Valerian (ammoniated).	

*Infusion* of Chiretta, Rhubarb, and Serpentry.

Decoction of Pomegranate.

## The following Preparations are weaker:—

Aque Chloroformi.	Extractum Belladonnæ Al- coholicum.
Extractum Nucis Vomicae	Extractum Opii Liquidum.
Extractum Physo-tigmatis.	Infusum Cascarillæ.
Injectio Apomorphinæ Hypodermica.	Injectio Morphinae Hypo- dermica.
Suppo-itoria Morphinae.	Tinctura Aconiti.
Tinctura Strophanthi.	

ointments of Boric Acid, Eucalyptus, Lead Carbonate, Lead Iodide, Mercurous Chloride, Phenol, Red Mercuric Oxide, Salicylic Acid, Stavesacre, Sulphur, and Sulphur Iodide.

# ALTERED NAMES.

OLD NAME.	NEW NAME.
Ergotinum.	Extractum Ergotæ.
Extractum Belladonnæ.	Extractum Belladonna Viride.
Extractum Hyoscyami.	Extractum Hyoscyamus Viride.
Injectio Ergotini Hypodermica.	Injectio Ergotæ Hypoder- mica.
Linimentum Camphoræ Com- positum.	Linimentum Camphoræ Ammoniatum.
Linimentum Iodi.	Liquor Iodi Fortis.
Liquor Cocainæ Hydrochlo- ratis.	Injectio Cocainæ Hypo- dermica.
Liquor Plumbi Subacetatis.	Liquor Plumbi Sub- acetatis Fortis.
Oleum Sinapis.	Oleum Sinapis Volatile.
Pilula Asafætida Composita.	Pilula Galbani Composita
Rhamni Purshiani Cortex.	Cascara Sagrada.
Tabelle Nitroglycerini.	Tabellæ Trinitrini.
Tinctura Aurantii Recentis.	Tinctura Aurantii.
Tinctura Chloroformi et Mor- phinæ.	Tinctura Chloroformi et Morphinæ Composita
Trochiscus Bismuthi.	Trochiscus Bismuthi Compositus.

## LIST OF ABBREVIATIONS.

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- A. M. S. B.* American Medico-Surgical Bulletin.  
*B. M. J.* British Medical Journal.  
*B. M. R.* British Medical Record.  
*B. P.* The British Pharmacopœia.  
*B. P. C.* Unofficial Formulary, British Pharmaceutical Conference.  
*B. Ph.* Bulletin of Pharmacy.  
*B. & C. D.* British and Colonial Druggist.  
*C. & D.* The Chemist and Druggist (London)  
*Ed. M. J.* Edinburgh Medical Journal.  
*H.* Helbing's Pharmacological Record (London).  
*I. M. G.* Indian Medical Gazette (Calcutta).  
*J. S. C. I.* Journal of the Society of Chemical Industry (London).  
*K.* Kemp's London Notes (Bombay).  
*L.* The Lancet (London).  
*M.* Martindale and Westcott's Extra Pharmacopœia (London).  
*M. R.* Indian Medical Record (Calcutta).  
*M. T.* Medical Times (New York).  
*N. I.* The New Idea (Detroit).  
*P. G.* The German Pharmacopœia.  
*P. I.* The Indian Pharmacopœia, 1868.  
*Pg. Ind.* Pharmacographia Indica, by Dymock, Warden, and Hooper, 1890 (Bombay).  
*Ph. J.* The Pharmaceutical Journal (London).  
*Ph. Rec.* The Pharmaceutical Record (New York).  
*Pr.* The Practitioner (London).  
*Ring.* Ringer's Handbook of Therapeutics (London.)

- Sq.* Squire's Companion to the British Pharmacopœia (London).
- T. G.* Therapeutic Gazette (Philadelphia).
- T. H.* Pharmacopœia of the Hospital for Diseases of the Throat (London).
- U. S. P.* Pharmacopœia of the United States of America, 1883.
- Y. B.* The Year-Book of Pharmacy (London).

The figures put after an abbreviation refer to the date of issue, or to the year, volume, and page, thus—

*L.* '88, ii., 105, signifies—The Lancet, Volume II. of 1888, page 105.

# THE Prescribers' Pharmacopœia.

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## ABIES CANADENSIS.

**Hemlock Spruce.**—The bark of the Canadian Fir-tree (*Abies Canadensis*) collected from young trees. Known also as *Pinus Canadensis*. It is recommended as an astringent in the form of

**Extractum Abietis Canadensis Liquidum.**—This is used diluted to various strengths, as an astringent in leucorrhœa, sores, hæmorrhoids, catarrh, mouth affections, &c. Internally it is given in severe cases of dysentery. *Dose*—15 to 60 minims. (0·9 to 3·5 Cc.)

An American preparation (Gedde's Fluid Extract of Hemlock Bark), highly concentrated, is most frequently met with. *Dose*—5 to 10 minims. (0·3 to 0·6 Cc.)

**Glycerinum Abietis.**—1 in 4. More readily miscible with water than the extracts. *Dose*—1 to 2 drachms. (3·5 to 7 Cc.)

## ABRUS PRECATORIUS, P.I.

**Jequirity, Indian Liquorice.—Prayer Beads; Jumble Beads; Gumchi; (Hind).** The seeds of *Abrus precatorius*, Linn. (Leguminosæ), an Indian shrub; small, of a scarlet colour with black patch on the hilum. They are harmless when eaten, but poisonous when applied to open wounds. An infusion is used for the cure of granular lids; applied to the inner surface, it sets up purulent ophthalmia varying in intensity with the frequency of the applications. Opinion is somewhat divided as to the cause of this action, it having until recently been held that this was due to the bacteria always present in the infusion. Warden and Wældell of Calcutta have recently separated a nitrogenous substance which they termed *Abrin*, and which was a powerful poison when injected. This has since been found to consist of two proteids, *Paraglobulin* and

*a-Phy-talburnose* which resemble snake venom in their action and properties, except that they are destroyed by a temperature under that of boiling water. The root was formerly called *Indian Liquorice*. Hooper has shown that the leaves contain a large proportion of *Glycyrrhizic acid*.

**Infusum Abri** (Oph. Hosp.)—1 in 12½. To be brushed on the inner surface of the lids, or applied on a linen compress.

**Liquor Abri**, Fluid Jequirity.—Strength 12 per cent. An American preparation for the extemporaneous preparation of the Infusion. It is to be diluted with 3 to 5 times its bulk of water and two drops applied once a day.

**Pasta Abri** (Dr. Shoemaker's).—Strength 1 in 4. For the treatment of affections of the skin dependent upon exuberant granulations and proliferating cell growths. Must be used with caution, applied with a camel's hair brush.

When the action of Jequirity is too severe it may be controlled by the free application of hot water and very dilute solutions of corrosive sublimate.

## ACACIA ARABICA.

**Indian Gum Arabic.**—(Leguminosæ) A common Indian Tree, yields considerable quantities of gum, generally adulterated and inferior in quality. The Bark (*Babul Bark*) occurs in large thick pieces, coarsely fibrous, and of a deep mahogany colour. It is a powerful astringent, and as such may be used instead of Oak Bark. It contains a large quantity of tannin, and is largely used in tanning.

## ACACIA CATECHU.

**Catechu Nigrum**—Black Catechu (Leguminosæ) grows in the forests throughout India. An EXTRACT from the heartwood, occurs in masses, consisting of layers, occasionally enveloped in rough leaves, blackish brown, shining, heavy, bitter and very astringent. The extract contains a peculiar form of tannin (*Mimotannic Acid*) and Catechin.

Used in diarrhoea, intermittent fevers, senrivy, &c.

An INFUSION, TINCTURE, AND COMPOUND POWDER, are official in the P. I.

## ACETAL.

**Di-ethyl Aldehydate.**  $C_2H_5(OC_2H_5)_2$ . The diethyl ether of Ethylene. When pure it is a colourless liquid, with a peculiar agreeable odour. Soluble in water about 1 in 18, and miscible with ether and alcohol. Boils at  $219^{\circ} F.$ ; Sp. gr. 0.8314.

Its action is that of a soporific, but it possesses no special advantages over others of the same class. It has not been much used, owing to the unpleasant taste and smell of the impure commercial specimens usually met with.

*Dose*—1 to 3 drachms (3.5 to 10.5 Cc)

**ACETANILID.**—See page 45.

## ACETOPHENONE.

**Hypnone; Phenyl-methyl-acetone; Acetylbenzene**  $C_6H_5CO.CH_3$ .—A colourless or slightly yellowish liquid, with a pungent taste and a peculiar persistent bitter almond odour. Sp. gr 1.027. Crystallises at about  $39^{\circ} F.$  Insoluble in water; soluble 1 in 90 of glycerine; freely miscible with alcohol, ether, chloroform, and olive oil.—*Sq.*

Acts as a hypnotic, but its value is doubtful. It does not act where there is pain. In alcoholic subjects its effects are superior to Paraldehyde or Chloral, but not constant, failing entirely in some cases (*Dujardin-Beaumontz*). Useful as an inhalation in phthisis, 5 drops every 4 hours—*T.G.*, Feb. '88.

*Dose*— $1\frac{1}{2}$  to 5 minims. (0.1 to 0.3 Cc.) Its action on the mucous membranes of the mouth being caustic, it is best given dissolved in ten times as much Almond Oil in capsules. May also be given in Syrup or almond Emulsion. Should not be used hypodermically.

## ACALYPHA INDICA.

A euphorbiaceous plant, common throughout India. Used as an expectorant and emetic, and recommended for children. Has been found useful in croup. It has little tendency to act on the bowels or depress the vital powers. A cataplasm of the leaves is recommended for syphilitic ulcers, and as a means of relieving the pain and irritation arising from insect bites. The bruised leaves introduced like a suppository invariably relieves constipation in children.

**Succus Acalyphæ.**—The expressed juice of the fresh plant. *Dose*—A teaspoonful (for an infant).

**Extractum Acalyphæ Liquidum.**—*Dose*—10 to 60 minims. (0·6 to 3·5 Cc.)

**A. C. E.**—See page 95.

## ACIDUM BENZOICUM, B. P.

**Benzoic Acid.** Soluble 1 in 400 of water, soluble in alcohol, fats, oils, and, alkaline solutions, forming benzoates. Usually administered internally as a benzoate.—*Dose*—5 to 15 grains (0·32 to 1 gm.).

**Trochisci Acidi Benzoici B. P.**— $\frac{1}{2}$  grain in each.

**Ammonii Benzoas, B. P.**—Soluble 1 in 5 of water 1 in 30 of alcohol—*Dose*—5 to 15 grains (0·32 to 1 gm.)

**Sodii Benzoas, B. P.**—Soluble 1 in 2 of water. *Dose*—5 to 30 grs. (0·32 to 2 gm.)

## ACIDUM BORICUM, B. P.

**Boric Acid ; Boric Acid**—Prepared by the action of Sulphuric Acid on Borax. In white crystals, unctuous to the touch, soluble 1 in 25 of cold water. 1 in 3 of boiling water, 1 in 5 of glycerine, and 1 in 20 of rectified spirit.

A mild antiseptic, used as a dressing for granulating and suppurating surfaces. As a mouth-wash, 10 to 15 grains to 1 oz. water ; as an eye-wash for purulent ophthalmia and conjunctival congestion, 2 to 5 grains to an ounce of water : as a paint for the throat, 1 in 5 of glycerine, are all useful formulæ. As a dusting powder it checks the fœtor of perspiration. It is largely used in some places for the preservation of meat, milk, &c., and forms the basis of several patented preparations for this purpose, as *Glacialine*, *Aseptin*, etc. Internally it has been used to sterilize the urine, before operating on the urethra.—*B. M. J.* '88. i. 1165. It is also used in the form of suppositories, 3 grains each, for pruritus and as pessaries 10 grains each.



*Antiseptic Dressing of Boric Acid.*

**Boric Lint.**—About 50 per cent.

**Boric Wool.**—About 40 per cent.

**Boric Gauze.**—25 to 40 per cent.

**Unguentum Acidi Borici, B. P.**—1 in 7. As a dressing for wounds, burns, eczema, etc., it is used spread on lint and applied to the part.

**Salve Mulls of Boric Acid** are spread with 10 per cent. ointment.

An ointment made with Lanolin is useful in children's eczema. If there is much induration,  $\frac{1}{2}$  to 1 per cent. Salicylic Acid may be added.—*B. M. J.* '88, ii. 896.

**Glycerinum Acidi Borici, B. P.**—The equivalent of—

**Boroglyceride.**—A patented preparation. A tough, deliquescent mass, prepared by heating Glycerine with Boric Acid. Soluble in water and alcohol. Solutions in water are used, 1 in 20, as an antiseptic in operative surgery, and in purulent ophthalmia (*L.* '83, i. 273); 1 in 40 as a preservative of meat, milk, etc.

**Liquor Magnesii Boratis**—A combination of Magnesia and Boric Acid, containing about 1 part of Boric Acid in 6. Said to be the composition of *Antifungin*. Has been recommended in diphtheria as a paint,—*B. M. J.* '87, ii. 526. This solution crystallises out 48 hours after preparation.

**Magnesii Boro-citras.**—Magnesium Borocitrate. A white powder, or scales, soluble in water, used as a urinary antiseptic internally for Gravel, Gout, and Rheumatism. *Dose*—15 to 30 grs.. 1 to 2 grm.

**Boracite.**—One of the above with two of sugar, to sterilize the urine 48 hours before operation. *Dose*—60 grs. (4 gm.)

**Thiersch's Antiseptic Solution** contains Boric Acid 12, Salicylic Acid 2, in water 1000. It is a useful surgical antiseptic.

## ACIDUM CARBOLICUM, B. P.

**Carbolic Acid; Phenic Acid; Phenic Alcohol; Phenol, B. P. Hydrate of Phenyl**  $\text{HC}_6\text{H}_5\text{O}$ .—A coal-tar product. In crystals, colourless, but having a tendency to become of a pink or brown tint. Melts at about  $100^\circ\text{F}$ . and upon the addition of 10 per cent. of water becomes hydrated and remains liquid. Soluble 1 in 12 of water at  $80^\circ\text{F}$ .; at  $155^\circ\text{F}$ . it mixes with water in all proportions, but separates on cooling. It is freely soluble in alcohol, chloroform, ether, fixed and volatile oils, glycerine, etc.; in varoline about 1 in 20.

Its properties are those of a powerful antiseptic, disinfectant and local anæsthetic. As a sedative it checks flatulence, and arrests diarrhoea; 3 grains 3 times a day, taken in water, relieve the itching of psoriasis.—*Sq.* Dose—1 to 3 grains (0.065 to 0.2 gm.) in pill.

Carbolic Acid is a neurotic poison. It whitens and shrivels the membranes with which it comes in contact, acting as a corrosive and also producing speedy narcosis. The urine becomes greenish or black with a perceptible odour of phenol. *Antidotes*—Stomach pump and emetics; Olive Oil in large doses—and strong Coffee; Atropin. Sulph.  $\frac{1}{100}$  grain hypodermically; Acid. Sulph. dil., 10 minims every hour.—*L.* '80, i. 702. In poisoning by absorption from antiseptic dressings, apply a 5 per cent. solution of Sodium Sulphate.—*Pr.*, xxiv. 300. Oil neutralises its caustic action externally.

Carbolic Acid is met with in the following varieties:—

**Absolute Phenol.**—In dry detached crystals. This form is the most suitable for internal administration.

**Synthetic Carbolic Acid**—Prepared by a patented process from a benzene product by a German firm and is chemically identical with ordinary carbolic acid. In crystals, having a weak, pure smell, no tarry odour, free from water, melting at  $106^\circ$  to  $108^\circ\text{F}$ ., and giving with water a clear solution, which at 5 per cent. strength is almost inodorous.

**No. 1. Carbolic Acid.**—The same as the preceding as regards quality, but occurs in crystalline masses. It is most suitable for mixing with water, etc., for surgical purposes. The solution has no disagreeable odour.

**No. 1. Carbolic Acid, Liquid.**—The above with the addition of 10 per cent. of water. Liquid at ordinary temperatures. The most convenient form for simple application as a caustic.

**No. 2. Carbolic Acid** (*Crystals and Liquid*).—Similar to but less pure than No. 1 and slightly less soluble in water. Suitable for use in sick-rooms, a solution of 1 in 20–40 of water being sprinkled about and used for general disinfecting purposes.

**No. 4. Carbolic Acid** (*Liquid*).—Colourless or pale, straw-coloured. Contains about 80 per cent. of Cresylic Acid and is suitable for disinfecting drains, urinals, etc. May be used 1 in 40 of hot water.

**No. 5. Carbolic Acid** (*Liquid*).—A dark-coloured liquid suitable for stable use, etc.

The antiseptic system of surgery, or *Listerism*, depends, or originally depended, upon the free and thorough use of Carbolic Acid in all surgical operations.

*Antiseptic Carbolic Acid Dressings.*

Wool, 5 per cent. Lint, 10 per cent. Gauze, 5 per cent.  
Tow, 5 per cent. Ligatures, 16 per cent. Protective  
Oil Skin, 5 per cent. Silk Sutures, 5 per cent.

*Medicinal Preparations of Carbolic Acid.*

Carbolates ... }  
Sulphocarbolates } SEE INDEX.

**Acidum Carbolicum Liquefactum, B. P.**—LIQUIDIFIED PHENOL. Phenol liquified by the addition of 10 per cent. of water. *Dose*—1 to 3 m. (0.06 to 0.18 cc.)

**Camphorated Carbolic Acid.**—Absolute Phenol 12, Camphor 4. Water 1. Not miscible with water. A useful application in ulcerous sores of man or animals. An antiseptic germicide and local anæsthetic. Very serviceable as an application in ulcer of the os and cervix uteri, in chronic inflammation of the uterus and cervix with excoriation, and in chronic uterine catarrh.—*Ring.*

**Soloids of Carbolic Acid.**—Contain 20 grains (1·296 gm.) each. Suitable for preparing lotions, etc., extemporaneously. One Soloid to a pint of water being a convenient strength.

**Gargarisma Acidi Carbolici.**—Two grains to 1 ounce. For sore-throat attended with foetor of breath.

**Glycerinum Acidi Carbolici, B. P.**—Phenol 1, Glycerini q. s. to 5. Mixed with an equal bulk of water, may be used as a mouthwash for foetid breath, also in diphtheria.—*Ring.* Given internally in pertussis,  $\frac{1}{2}$  minim for under 1 year;  $1\frac{1}{2}$  minims for 2 to 5 years.—*B. M. J.*, May 11, 89. *Dose.*—5 to 10 minims (0·30 to 0·6 cc.) in water.

**Injectio Acidi Carbolici Hypodermica.**—2 to 5 per cent. For anthrax.—*L.* 87, ii. 1186. In erysipelas.—*Ring.*

**Iodine Solution, Carbolised.**—A colourless solution. Containing 2·2 grains Carbolic Acid and 0·3 grain Iodine per fluid ounce. Useful as a gargle or inhalation, as a paint, in diphtheria, also as a douche in ozæna and for intra-uterine injection. A similar preparation containing 10 per cent. of Iodine has been given internally for Asiatic cholera in doses of 10 minims every half hour hypodermically.—*L.*, Sept. 29, '83.

**Iodised Phenol.**—1 to 4. For intra-uterine medication, and as an application for ringworm of the scalp.

**Lotio Acidi Carbolici.**—4 grains to 1 ounce. A useful preventive against mosquito bites, if mixed with a little Glycerine and applied to the face and hands. Also relieves the pain and itching of such bites.

**Mistura Acidi Carbolici.**— $1\frac{1}{2}$  minim with 2 minims Tinct. Iodi, in one fluid ounce. Recommended for typhoid fever. *Dose*—One ounce every 4 hours.

**Carbolic Oil.**—1 to 7, or any strength desired. As a dressing.

*Lund's and other Catheter Oils* contain Absolute Phenol dissolved in a mixture (varying proportions) of Olive and Castor Oils.

**Pastils of Carbolic Acid.**— $\frac{1}{2}$  grain in each, (0·032 gm.) prepared with a gelatine basis; same use as the gargle, but more convenient.

**Perles of Carbolic Acid.**—1 grain each in oil. *Dose*—1 or 2.

**Pilula Acidi Carbolici.**—2 grains each. For flatulence with great distension and no pain; also in diarrhoea and as an antipyretic. *Dose*—One 3 times a day.

**Preservative Solution.** For anatomical subjects, contains Carbolic Acid in Glycerine and Methylated Spirit.

**Phenosalyl** A mixture of Carbolic, Salicylic, and Benzoic Acids, in molecular proportions with Menthol, dissolved in Lactic acid. It forms a clear syrup which dissolves readily in warm water, alcohol and ether, and to the extent of 7 per cent. in cold water.

Its antiseptic power is said to be considerably superior to Carbolic Acid, while it is not so toxic.

Phenosalyl can be employed in 1 or 2 per cent aqueous solutions, dissolved in Glycerine, or in 1 or 2 per cent. ointments with Vaseline or Lanoline, mixed with an equal quantity of Glycerine as a caustic; and internally in doses of 1 or 2 minims for flatulence. No corrosive action.

**Phenol Sodique.**—A French preparation used as an antiseptic by dentists. It is closely represented by the English preparation known as

**Liquor Sodii Carbolatis** (Sol. Sodii Phenatis), which contains about 8 per cent. of Phenol in combination with Caustic Soda. It possesses the antiseptic and anæsthetic properties of the Acid, and is much less caustic.

**Smelling Salts, Carbolicised.**—For hay fever, influenza, etc.

**Salve Mulls of Carbolic Acid.**—10 per cent.

**Soaps, Carbolic.**—*Nursery*, 5 per cent.; *Toilet*, 10 per cent.; *Medical*, 20 per cent. For stable use, etc., cheaper varieties are prepared.

**Suppositoria Acidi Carbolici. B. P.**—1 grain each.

**Tribromphenol; Bromal.**—Prepared by the reaction of Carbolic Acid with Bromine. In odourless soft white crystals, scarcely soluble in water, but soluble in alcohol, etc., as well as

in alkaline solutions. It is used as an anti-septic. For surgical dressings, the powder is sprinkled on cotton wool and applied to the part, or it may be used in the form of an ointment containing 10 grains to the ounce of Vaseline. *Dose*— $\frac{1}{2}$  to 2 grains (0.032 to 13 gm.).

**Trichlorphenol.** TRICHLORPHENIC ACID.—A derivative of Carbolic Acid prepared from the latter by acting on it with Chlorinated Lime. In white volatile crystals, with a pungent taste and tarry odour. It is insoluble in water, but soluble in alcohol, glycerine oils, etc., and forms soluble salts with bases.

Trichlorphenol has been used as a disinfectant, and is said to be 25 times stronger than Carbolic Acid. A 2 per cent. solution of the Magnesium Salt has been used in purulent ophthalmia.—*B. M. J.*, '85, i. 69.

**Chlorphenol**, a mixture of a **Monochlorphenol**, with Engenol, Menthol and Alcohol, used as an inhalation in Phthisis.

**Ortho-Monochlorphenol.**—An oily colourless liquid, with a very diffusive and persistent odour.

**Trochisci Acidi Carbolic**, *B. P.*—One grain each (0.065 gm.) Antiseptic and stimulant.

**Unguentum Acidi Carbolic**, *B. P.*—1 in 25 (*B. P.* 1885 1 in 19) Phenol now dissolved in glycerine to prevent crystallization on keeping. In parasitic skin diseases, and for smearing the hands previous to operations, etc.

**Vapor Acidi Carbolic**, *T. H.*—20 drops of No. 1 Liquid Acid to 1 pint of water at 140° F. Useful in pertussis. Lessens and disinfects the abundant expectoration in bronchitis and gangrenous lung. As a spray, 3 drops to 1 ounce of water.

**Sulphocarbolic Acid. Orthophenol Sulphonic Acid; Sozolic Acid; Aseptol**,  $C_6H_4(OH)SO_3H$ .—A reddish liquid prepared by combining Carbolic and Sulphuric Acids. Properties similar to, but stronger than, Salicylic and Carbolic Acids. Soluble in water, alcohol and glycerine, a 33 per cent. solution being recommended in preference to Carbolic Acid. This solution is less caustic than Carbolic Acid, and hardly at all toxic.



A 3 per cent. solution is recommended in gingivitis and pyorrhœa; reduces the swelling, arrests the flow of pus, and brings the gums to their natural shape.—*Ph. J.*, Apr. 30, '87.

**ACID. CATHARTIC.**—See page 270.

### ACIDUM CETRARICUM.

**Cetrarin.**—The bitter principle of *Cetraria Islandica* (*Cetraria*  $C_{18}H_{30}O_5$ ). (Iceland Moss.) In white crystalline needles, having a bitter taste, soluble in alcohol, slightly so in water and ether. Its use seems to be indicated in cases of chlorotics suffering from loss of appetite, constipation and languor. *Dose*—1 to 3 grains

**ACID. CHRYSOPHANIC.**—See page 54

### ACIDUM CHLORACETICUM.

**Chloracetic Acid.**—A chlorine compound of acetic acid, in deliquescent white crystals, generally liquefied. Blisters the skin.

**Acidum Trichloraceticum.**—This acid ( $HC_2Cl_3O_2$ ) occurs in deliquescent colourless crystals, and is used as a caustic for warts, etc., and in diseases of the nose and throat, having the advantage over chromic acid, in that its action is localised and more persistent.—*Ph. J.*, Nov. 29, '90. A solution of 50 % is used as a caustic under the name of **Acetocaustin**.

### ACIDUM CHROMICUM, B. P.

**Chromic Acid; Chromic Anhydride.** In deliquescent, crimson, acicular or columnar crystals. Odourless; a powerful oxidising agent, decomposing alcohol, glycerine, &c., with evolution of heat; liable to cause sudden combustion or explosion with these and other oxidisable substances. For warts, a watery solution about 1 in 4, applied by means of a glass rod (must be free from sulphuric acid).

**Chromic Catgut Ligatures.** Nos. 0, 1, 2, 3.

**Liq: Acidi Chromici, B. P.**—1 to  $3\frac{1}{2}$  of water.

In chronic gonorrhœa, solution 1 in 4. In epistaxis a 3 per cent. solution painted on the surface of septum; to prevent burning sensation, a little 10 per cent. solution of cocaine is added.

## ACID. CINNAMICUM.

**Cinnamic Acid** (CINNAMYLIC ACID) occurs in transparent crystals, only slightly soluble in water.

Recommended as an injection in Phthisis, a 5 per cent. oily emulsion, with yolk of egg made alkaline; and injected in lupus into the affected part.

**Cinnamate of Sodium.**—Cinnamylate of Sodium, a white crystalline powder, soluble in water. A 5 per cent. aqueous solution of Cinnamylate of Sodium may be used instead of the emulsion of Cinnamylie acid; injected intravenously. *Dose*—from 2 to 16 minims, the injections may be given three times a week, if necessary.

## ACIDUM CRESYLICUM.

**Cresylic Acid; Cresol; Methyl-Phenol;**  $C_6H_4CH_2OH = C_7H_8O$ .—A mixture of ortho—, meta—, and para—cresols. A coal-tar product. Occurs as a colourless or slightly yellow liquid, with a tarry odour. Soluble 1 in 80 of water, freely soluble in alcohol, ether, glycerine, and olive oil. It is antiseptic, slightly caustic, and said to be superior to Carbolic Acid and much less poisonous. Used as an inhalation in whooping cough.—*Sq.*

**Cresol Salicylas, Para-Cresol Salicylate; Cresalol.**—The para-phenylic ether of Cresylic Acid. In white crystals, similar to Salol in appearance and medicinal properties. Insoluble in water, freely soluble in alcohol. Has been found serviceable in rheumatism, and has been suggested for cholera.—*Ph. J., Mar. 2, '89.*

*Dose*—2 to 10 grs. (0.13 to 0.65 grs).

**Trioresol**, a mixture of the three Cresols. A clear, colourless, oily liquid, soluble 1 in 40 of water, has about three times the germicidal power of carbolic acid. Used in surgery in solutions of about  $\frac{1}{2}$  to 1 per cent.

**Cresin.**—A solution of cresol in an aqueous solution of creosylacetate of sodium. A clear brown liquid, containing 25 per cent. of the active ingredient. It is an excellent disinfectant and deodorant.



**ACID. GYNOCARDIC.**—See page 154.

## ACIDUM HYDROFLUORICUM.

**Hydrofluoric, Fluorhydric, or Fluoric Acid.**—An aqueous solution of Hydrofluoric Acid gas, containing about 30 per cent. of the gas. Owing to its action on glass, it requires to be kept in leaden or gutta-percha bottles.

Has been administered by inhalation in phthisis, patients inhaling air which has been passed through a mixture of Acid 1, Water 3, with good result.—*L.* 89, i. 496.

**Acidum Fluoricum, Dilutum, T. H.**—Contains  $\frac{1}{2}$  per cent. of the above. In this form the Acid does not injure the stomach, nor affect glass vessels if kept therein for some time. Recommended for goitre in dose of 10 to 30 minims. (0·6 to 1·8 cc.) Given in doses of 30 minims, (1·8 cc.) gradually increased to 2 drachms, (7·0 cc.) proved very successful. In no case, however, could more than 2 drachms be tolerated.—*L.* 81, i. 448, 497, 537. *Dose*—15 to 60 minims. (0·9 to 3·5 c.)

**Ammonii Fluoridum.**—Administered in solution. *Dose*— $\frac{1}{4}$  to  $\frac{1}{2}$  grain. (0·0026 to 0·032 gm.)

**Ferri Fluoridum, Ferrous Fluoride.**—A purplish insoluble powder. *Dose*— $\frac{1}{4}$  to  $\frac{1}{2}$  grain. (0·0026 to 0·032 gm.)

**Quininæ Fluoridum.** *Dose*— $\frac{1}{4}$  to  $\frac{1}{2}$  grain (0·0026 to 0·032 gm. (See page 254.)

A solution of Ammonium Fluoride has been recommended for hypertrophy of the spleen. The results were most successful.—*J. M. G.*, April '82; *Pr.* June '87.

## ACIDUM LACTICUM, B. P.

**Lactic Acid.**—A syrupy, colourless liquid, obtained by the lactic fermentation of sugar. It contains about 75 per cent. of real acid,  $\text{HC}_3\text{H}_5\text{O}_3$ . It is freely miscible with water, alcohol and ether, but is nearly insoluble in chloroform. Sp. gr. 1·21. It coagulates milk and albumen.

It is used in the pure state as a paint for lupus, but is apt to cause pain.—*Ed. M. J.*, Jan. '88. Also recommended internally, in doses of 10 minims (0·6 cc.) twice a day in phthisis to allay

cough and quench thirst. As a spray, **Nebula Acidi Lactici, T. H.**, 1 in 16 of water, is very useful for dissolving the membranous exudation in diphtheria.

*Dose*—5 to 20 minims (0·3 to 1·2 cc.) or more, well diluted.

**Acidum Lacticum Dilutum, (B. P. 1885)**—3 in 20.

*Dose*— $\frac{1}{2}$  to 2 drachms (1·8 to 7 cc.).

Teaspoonful doses of a 2 per cent. solution of Lactic Acid (equal to 8 minims Acid. Lactic. Dil.) have been recommended in infantile diarrhoea.

**Quininæ Lactas.** (See page 256.)

**Zinci Lactas.** (See page 305.)

**Calcii Lactas.** A white crystalline powder—*Dose*—1 to grs. (0·065 to 0·32 gm.)

**Ferri Lactas.** (See page 139.)

In combination with Iron and Lime, as Lactophosphate, Lactic Acid is given internally as a stomachic and tonic. The following are the best forms for administration :—

**Syrupus Calcii Lactophosphatis B.P.**—*Dose*— $\frac{1}{2}$  to 1 drachm (1·8 to 3·5 cc.)

**Syrupus Calcii et Ferri Lactophosphatum.**—The above, with the addition of one grain Lactate of Iron to each drachm. *Dose*— $\frac{1}{2}$  to 1 drachm (1·8 to 3·5 cc.).

**Salactol.** (Not to be confounded with *Salacetol*) is a compound of the sodium salts of Salicylic and Lactic Acids; 1 per cent. solution in Hydrogen Peroxide, is recommended as a remedy for diphtheria applied as a pigment and gargle—*A. M. S. B.*, Jan. '95, 38.

**ACID. OLEIC.**—See page 214.

**ACIDUM OSMICUM.**

**Osmic Acid; Osmium Tetroxide; Perosmic Acid; Hyperosmic Acid.**  $\text{Os O}_4$ .—In yellow crystals, which give off an intensely irritating vapour, attacking the eyes and nostrils. Taste acrid and burning. Soluble about 1 in 50 of water, but decomposes in contact with alcohol or ether. The aqueous solution should be protected from light and stored

in bottles free from lead. Osmic Acid is poisonous and powerfully oxidising, decomposing Iodide of Potassium, and converting Alcohol into Aldehyde and Acetic Acid.

**Liquor Acidi Osmici.**—1 per cent. Chiefly used as a stain for fat and nerve fibre in histological work, and for hardening tissues. It blackens most substances owing to reduction of metallic Osmium. This solution has been used hypodermically for sciatica, neuralgia, goitrous swellings, etc. *Dose*—4 to 6 minims (0·24 to 0·35 cc.) hypodermically.

**Potassium Osmate.**— $K_2OsO_4 + 2 H_2O$ .—A dark violet-red crystalline powder, readily soluble in water, forming a yellow solution. Has been given in epilepsy either along with or alternating with Bromide of Potassium.

*Dose*— $\frac{1}{6}$  grain (0·001 gm.) in pill. A 1 per cent. solution is used hypodermically for the same purposes as Liquor Acidi Osmici.

## ACIDUM PHENYLACETICUM.

**Phenylacetic Acid; Alphetoluic Acid;  $C_6H_5CH_2COOH$ .**—A coal-tar product. In white crystals, having a sour aromatic taste and persistent odour, and acid reaction. Soluble 1 in 6 of alcohol, 1 in 20 of oils.

*Dose*—1 to 3 grains (0·056 to 2 gm.) in solution. Given in phthisis, 10 to 20 minims of the alcoholic solution, 3-times a day, produced in the patients a gain of weight, strength, and colour, partly due to diminution of cough and expectoration. Indicated in cases of tuberculization. No unpleasant effects.—*Ph. J.*, Mar., 2, '89.

## ACIDUM PHENYLPROPIONICUM.

**Phenylpropionic Acid; Hydrocinnamic Acid Homotulic Acid.**—A coal-tar product,  $C_9H_{10}O_2$ . In acicular crystals of a reddish white colour, insoluble in water, but soluble 1 in 6 of alcohol. Taste and odour very similar to Phenylacetic Acid, but has a less decided acid reaction.

*Dose*—1 to 3 grains (0·065 to 2 gm.) in solution. 10 minim dose of the alcoholic solution, well diluted, increased to 20 minims, were given to patients suffering from phthisis.

Produced no unpleasant effects but gain of weight, colour, and vigour, without, however, any diminution in cough or expectoration. Indicated in excavation cases.—*Ph. J.*, Mar. 2, '90.

### ACIDUM PICRICUM.

**Picric Acid; Carbazotic Acid; Trinitrophenic Acid; Trinitrophenol;**  $C_6H_3(NO_2)_3O$ .—Prepared by the action of of Nitric Acid on Carbohic Acid. It occurs in yellow crystals, intensely bitter, and soluble about 1 in 90 of water and 1 in 16 of rectified spirit. It is used as a test for albumen. See page 327.

*Dose*— $\frac{1}{4}$  to 2 grains. (0.06 to 0.13 gm.)

**Liquor Acidi Picrici.**—1 per cent. aqueous solution. *Dose*— $\frac{1}{2}$  to 3 drachms. (1.8 to 10.5 cc.) Given in cases of ague and albuminuria, but is apt to colour the skin, conjunctiva, and urine yellow.—*B. M. J.*, '84, ii 1109.

A 6 to 1000 solution of Picric Acid is recommended as an external application in erysipelas, lymphangitis and eczema. To be applied 5 to 10 times a day.—*L.*, April 1, '89.

The Ammonia salt only is used medicinally, the Potassium salt being explosive.

**Ammonii Picras,** CARBAZOTATE OF AMMONIA.—A yellow crystalline salt, recommended as a valuable antiperiodic in ague and malarial fevers of India, and an efficient substitute for Quinine.—*L.*, Feb. 19, '87.

*Dose*— $\frac{1}{8}$  to  $1\frac{1}{2}$  grains (0.008 to 1 gm.) in pill or sweetened mixture.

### ACIDUM PYROGALLICUM.

**Pyrogallic Acid; Pyrogallol;**  $C_6H_6O_3$  DIOXYPHENIC ACID.—Prepared from Gallic or Tannic Acid by heat. In light flaky crystals, which darken by exposure, and must therefore be kept away from light. Soluble 1 in  $2\frac{1}{2}$  of water, freely in alcohol. Largely used in photography; also in conjunction with Nitrate of Silver as a hair dye.

It is given like Gallic Acid for hæmoptysis, but in smaller doses, and used also as an ointment for psoriasis, but must be applied with caution.

*Dose*— $\frac{1}{4}$  to  $\frac{3}{4}$  grains (0.082 to 1 gm.) in solution or pill (freshly prepared)

**Unguentum Acidi Pyrogallici**, JARISCH'S OINTMENT.  
—1 to 8. Used for psoriasis, applied twice a day, the parts being afterwards covered with flannel. Efficacious but painful, and is apt to cause toxic symptoms. The internal use of Acid. Nitrohydrochlor. Dil. is recommended to obviate the toxic effects of its external application.—*Ed. M. J.*, Oct. '86.

**Unguentum Pyrogallol Compositum** (Unna),  
Pyrogallol 5. Salicylic Acid 2. Icthyol 5. Yellow Vaseline 88.

**Gallocetophenone**.—A derivative of pyrogallol. A yellowish brown powder soluble in alcohol, ether, glycerine, and hot water, slightly in cold. Used in psoriasis and other skin affections.

**Pyraloxin**. OXIDISED PYROGALLIC ACID.—Recommended by Dr. Unna as being far superior to Pyrogallie Acid in skin diseases, because of the various inconveniences of the latter, staining, etc. Pyraloxin is prepared by exposing Pyrogallie Acid to the action of the air, and to ammoniacal vapours. It occurs as a deep brown or black powder. Dr. Unna has used it in psoriasis and eczema, and found the curative effect the same as that of Pyrogallie Acid, but there was no discolouration and no pyrogallie dermatitis.

**Gallicine**. The methylic ether of gallic acid. In white needles, readily soluble in hot water, and ether. Related chemically and therapeutically to Resorcin and Pyrogallol, but is said to be devoid of the poisonous properties of the latter substance. Recommended in eczema of the conjunctiva, superficial keratitis, follicular catarrh, and all forms of inflammation of the conjunctiva accompanied with thick slimy secretions, or complicated with Eczema of the Eyelids. *A. M. S. B.*, June 15, '95.

## ACIDUM SALICYLICUM, B. P.

**Salicylic Acid**.  $\text{HC}_7\text{H}_3\text{O}_3$ . In white needle-shaped crystals, taste sweetish, soluble about 1 in 500 of water; 1 in 4 of spirit; 1 in 2 of ether; 1 in 20 of olive oil; 1 in 200 of glycerine. 20 grains may be dissolved in an ounce of water by the addition of about 30 grains Borax, or 40 grains Citrate of Potassium.

Acetates of Ammonium and Potassium have also been recommended for the same purpose, but they act simply by forming Salicylates and setting free Acetic Acid; the use of Salicylate of Sodium, therefore, is preferable. The aqueous solution gives a violet colour with Ferrie salts. Salicylic Acid is prepared chiefly from Carbolic Acid by heating with Caustic Soda and passing Carbonic Acid gas through the liquid; the Salicylate of Sodium thus formed being decomposed by means of an Acid. It may also be obtained from the oils of wintergreen (*Gaultheria procumbens*), sweet birch (*Betula lenta*), and an Indian plant (*Audromeda Leshnaultii*), the first named plant being chiefly used. Until recently the latter or *natural* Salicylic Acid has been preferred as purer, the *artificial* acid often containing traces of carbolic acid and similar impurities, but there is less need now for such a distinction, as perfectly pure acids are now manufactured by the carbolic process, a process which has the recommendation of being much cheaper. The *natural* acid occurs in needle-shaped crystals resembling strychnine in appearance and larger than those of the *artificial* acid, which is usually supplied in foam similar to quinine. Either may be used as 'Acidum Salicylicum, B. P.' and when pure the two are chemically identical—*Ph. J.*, May 26, '88; *C. & D.*, Nov. 15, '90, *A.*, Feb. '91.

Salicylic Acid is a powerful antiseptic and as such is largely used for surgical dressings. A solution (1 in 500) is also useful as a gargle and mouth wash in diphtheria.—*B. M. J.* '89. ii. 802. As an antiseptic it is less irritating than carbolic acid, though, unlike the latter, it is not volatile. It is, however, said to be three times as powerful in preventing fermentation.—*Ring.*

*Antiseptic Dressings of Salicylic.*

**Salicylic Gauze**.....4 per cent.

**Salicylic Lint**.....4 per cent.

**Salicylic Wool** .....4 and 10 per cent.

**Salicylated Isinglass Plaster.**—On thin linen rendered adhesive by wetting. May be easily removed, and is much more adhesive than the old sticking plaster.

**Pulvis Salicylicus cum Talco, P. G.**—3 per cent.  
A dusting powder, specially suitable for perspiring feet.



**Salicylic Acid Suet.**—2 per cent. An application to relieve soreness caused by riding.

**Salicylic Silk.**—10 per cent.

In addition to its power as an antiseptic Salicylic Acid has the property of destroying callosity, and for this purpose the following combinations are used :—

**Salicylic Plaster Mulls.**— $\frac{1}{2}$  grain to the square inch combined with Creosote. Used in the treatment of thickened epidermis.—*L.* Dec. 1, '83. Also combined with Ext. Cannab. Ind. 15 per cent.

**Granular Effervescent Salicylic Acid.** grs. 5. acid in 60 grs. *Dose.*—1 drachm. (4 gm.).

**Collodium Salicylicum.**—With or without Ext. Cannab. Ind., an excellent application for hard and soft corns, and the basis of most nostrums for this purpose.

More active preparations are made by adding Chloride of Zinc, 30 grains to 1 ounce; Hydrarg. Perchlor. 16 grains to 1 ounce; or Lactic Acid, 1 drachm to 1 ounce.

**Liq. Acidi Salicyli**— $1\frac{1}{2}$  parts acid in 1000 parts water Used in making solution of alkaloidal salts.

**Unguentum Acidi Salicylici, B. P.**—1 in 50. An antiseptic ointment, suitable for eczema, acne, etc.

**Camphora Salicylata, SALICYLATE OF CAMPHOR.**—A compound of Salicylic Acid and Camphor. An unctuous, crystalline mass, which liquefies when rubbed on the skin. Slightly soluble in water and glycerine, more so (about 1 in 20) in fats and oils. It becomes hydrated by boiling with water, forming a heavy oily liquid. Used as an antiseptic dressing, also for lupus and rodent ulcers. *Dose*—1 to 5 grains (0.065 to 0.32 gm.).

**Salicylic Cream.**—1 in  $5\frac{1}{2}$

**Salicylated Camphor Wool** contains 8 per cent. An antiseptic wound dressing.

Internally the chief use of Salicylic Acid is as an anti-rheumatic. Its effects are very similar to quinine, and it can be more easily tolerated. It appears in the urine as Salicyluric Acid. It is generally given as Salicylate of Sodium (see Sodium) 5 grs. of which are equal to 4 of acid, and which does not produce the same

unpleasant effects. Salicin and Salol (see page 264 and 265) are also much preferred to Salicylic Acid.

**Salicylates**—See INDEX.

**Diuretin.**—(Theobromine Sodio-Salicylate), see page 292.

**Salicin.**—See page 264.

**Salol.**—See page 265.

**Iodo-Salicylic Acid and Di-Iodo-Salicylic Acid.**—Iodine compounds of Salicylic Acid, having the combined action of the two drugs. They occur as white crystalline powders, slightly soluble in water, but soluble in alcohol, ether and oils. The latter is preferred as being richer in iodine. It is a powerful antiseptic, analgesic, and antithermic, and has succeeded where salicylates have failed.

*Dose*—20 grains (1.3 gm.) increased to 60 grains daily (4 gm.), in cachets.—*Ph. J.*, Dec. 28, '89.

**Agathin.**—Salicylic Aldehyde-Methylphenylhydrazine. White scales with a slightly greenish tinge; odourless and tasteless, insoluble in water, soluble in alcohol and ether. Used as an analgesic, in articular rheumatism, sciatica and neuralgia.

*Dose*—4 to 8 grains (0.26 to 0.52 gm.).

**Ammonii Salicylas.**—Hard colourless crystals or crystalline powder soluble in water.

*Dose.*—5 to 30 grains (0.32 to 2 gm.).

**Bismuthi Salicylas.**—See page 69.

**Salicylamide.**—A combination of Acetanilid and Salicylic acid occurring as a white powder, insoluble in water, soluble in spirit. It is used for similar purposes to Acetanilid, and especially for the relief of rheumatic pains. *C. & D.*, 22nd Dec. 1894.

*Dose*—2 to 6 grains (0.13 to 0.4 gm.).

**Acidum Cresoticum.**—See Paraeresotic Acid, page 275.

**Dithiochlor Salicylic Acid.**—Obtained by heating a mixture of salicylic acid and sulphur chloride. The mass obtained is admixed with water containing a little sodium carbonate when the acid is obtained as a reddish yellow precipitate.



Recommended as a substitute for Iodoform.—A. M. S. B., Oct. 1, '95.

**Salacetol.**—Light shining crystals, slightly soluble in water. An internal aseptic.

*Dose*—10 to 30 grains (0·65 to 2 gm.)

**Salophen.**—Acetyl-para-amido-phenyl-salicylic-ester. White crystalline scales, tasteless and odourless, soluble in ether and alkalies, almost insoluble in water; contains 51 per cent. of salicylic acid. Used for Headache, Influenza, Neuralgia and Rheumatism. *Dose*—10 to 30 grains (0·65 to 2 gm.)

**ACID. SCLEROTIC.**—See page 127.

### ACIDUM SULPHANILICUM.

**Sulphanilic Acid.** Occurs in white crystals, slightly soluble in water.

Used to relieve catarrh, best given as

**Sodii Sulphanilas.** In white scales, easily soluble in water.

*Dose*—5 to 15 grains (0·32 to 1 gm.)

**ACIDUM TRICHLORACETICUM.**—See Acid Chloraceticum. Page 11.

### ACIDUM SULPHUROSUM, B. P.

An aqueous solution containing 5 per cent. sulphurous anhydride SO<sub>2</sub> Sp. Grav. 1·025. A powerful de-oxidizing agent, disinfectant, and antiseptic, used diluted as a spray in Diphtheria, as a lotion 1 or 2 drachms to 1 oz. water, for wounds, cuts, &c. *Dose*— $\frac{1}{2}$  to 1 drachm (1·8 to 3·5).

**Magnesii Sulphis.** SULPHITE OF MAGNESIUM. Internally for Diphtheria.

*Dose*—10 to 30 grains (0·65 to 2 gm.)

### ACONITINA, B. P.

**Aconitine; Aconitia.**—An alkaloid obtained from the root of the Monkshood (*Aconitum Napellus*) and other species. It occurs in white, usually amorphous lumps, and varies both in solubility and potency according to the species of Aconite.

employed and the process of manufacture. From *Aconitum Napellus* is obtained Aconitine, which, under certain conditions, splits up into Benzoic Acid and Aconine; from *Aconitum ferox* (Nepaul Aconite *Bikh* or *Bish* of Northern India), *Pseud-aconitine*, which is physiologically similar, but splits up into Veratric Acid and Pseud-aconine; from *Aconitum Japonicum*, Jap aconitine which decomposes into Benzoic Acid and Jap-aconine. *A. heterophyllum* (Indian Atees) and *A. palmatum*, Indian plants, yield no Aconitine, being tonic and antiperiodic in action. *Pg. Ind.* i. 15. The active principle of Indian Atees is *Atisine*, an amorphous alkaloid, intensely bitter, but non-poisonous.

**English Aconitine** (Morson's), which is generally preferred, is supposed to be identical with Pseud-aconitine.

**French Aconitine** (Duquesnel's) occurs in crystals, and is prepared from *A. Napellus*. It is the most potent form, being about ten times as powerful as the 'German amorphous,' and care should be taken to distinguish between them.

**German Aconitine** (Amorphous) is obtained from *A. Napellus*, but by a different process from the preceding and is not so generally preferred. It is believed that the difference in strength is due to admixture with other and less active alkaloids.

**English Aconitine** is freely soluble in ether, spirit, and dilute acids, but requires 4,000 parts of water to form a solution. When rubbed on the skin it produces a tingling sensation followed by numbness, and relieves acute nervous pain. Care should be taken in its application to avoid abraded skin or mucous surfaces.

*Dose*— $\frac{1}{2}$  to  $\frac{1}{10}$  grain (0.00027 to 0.0011 gm.). May be increased to  $\frac{1}{8}$  grain (0.0026 gm.)

**Extractum Aconiti. B. P. 1885.**—From fresh leaves and flowering top. *Dose*— $\frac{1}{4}$  to 1 grain (0.016 to 0.065 gm.)

**Linimentum Aconiti. B. P.**— $1\frac{1}{2}$  = 1 of Root.

**Linimentum Aconiti Co. G. H. A. B. C.** Liniment. Aconite, Belladonna and Chloroform Liniment, equal parts.

**Tinctura Aconiti. B. P.** *Dose*—5 to 15 min. (0.3 to 0.9 cc.) Fleming's and Turnbull's Tinctures of Aconite are about 12 times the strength of the B. P.

**Chloroform Aconiti, B. P. C.** Mixes with oils and liniments. Useful for neuralgia.

**Injectio Aconitinæ Hypodermica**—One grain in  $\frac{1}{2}$  ounce. *Dose*—1 or 2 minims (0.06 or 0.12 cc.)

**Oleatum Aconitinæ.**—2 per cent. Very useful as a paint for neuralgia, being readily absorbed.

**Unguentum Aconitinæ, B. P.**—8 grains to 1 ounce. For neuralgia, etc.

The following formula has been recommended in obstinate facial neuralgia which resists the action of Aconitine or of Quinine alone:—R. Quinin. Hydrobrom. 10 centigrammes, Aconitin. (Crystal) 0.5 milligramme. ft. pil. One every 4 or 5 hours.

The preparations of Aconitine are very valuable in neuralgia, sciatica, and acute rheumatism. A good form of application is

**Anodyne Amyl Colloid**, which contains Aconitine with Veratrine and Hydride of Amyl, dissolved in Collodion, the latter keeping the anodynes in contact with the skin. The rapid evaporation of the Amyl Hydride is often sufficient in itself, but should the pain continue, a piece of moist spongopiline applied over the collodion film will bring the alkaloids into increased activity.

## ACORUS CALAMUS.

**Sweet Flag.** (Aroideæ).—The dried Rhizome is common in Indian bazaars, and is one of the most popular remedies amongst native practitioners. A stomachic and tonic. Given generally in the form of Infusion (1 to 10). It contains a glucoside (*Acorin*) and a volatile oil.

## ADANSONIA DIGITATA

**Baobab; Monkey Bread Tree**—A large African tree, cultivated in India. The pulp of the fruit is astringent and demulcent, and is used by the natives as a remedy for diarrhoea and dysentery. The ash of the pericarp is used in Africa for the manufacture of soap—*Pg. Ind.*, i. 220. The bark is said to contain a glucoside *Adansonin*, having properties antagonistic to Strophanthus, but this requires confirmation. It also yields a gum which is insoluble in water.

**ADHATODA VASICA.**

**Nees.**—A common plant in India (Acanthaceæ) employed by the natives in coughs, asthma, ague, etc. The roots are used as a substitute for senega, and the dried leaves are smoked in asthmatical affections.

**ADEPS LANÆ.** See page 191.

**ADEPSINE.** See page 221.

**ADHESOL.**

A surgical dressing used in the treatment of superficial wounds. It consists of Copal Resin 35, Gum Benzoin 3, Balsam Tolu. 3, Ether 100. Oil Thyme 2, B. Naphthol 3. When applied to the skin the liquid portion evaporates rapidly, leaving a thin pellicle rendered antiseptic by the naphthol.

**ADONIS.**

**False Hellebore.**—The leaves and stalks of *Adonis vernalis*, Linn. (Ranunculaceæ) of Southern Europe. Adonis owes its activity to a glucoside *Adonidin*, the action of which is similar to Digitalin, but not cumulative. The plant acts as a cardiac tonic and is given in heart disease and dropsy.

*Dose*—3 to 6 grains (0.2 to 0.4 gm.) in powder.

**Extractum Adonidis Liquidum.**—*Dose*—1 to 2 minims (0.06 to 0.12 cc.) cautiously increased.

**Tinctura Adonidis.**—*Dose*—10 to 30 minims (0.6 to 1.8 cc.)

**Adonidin.**—A glucoside, the active principle of Adonis. Cardiac tonic and diuretic. It acts chiefly on the heart, raising arterial tension, having a sedative action on the heart similar to Belladonna.—*L.*, Nov. 24, '88.

*Dose*— $\frac{1}{15}$  to  $\frac{1}{2}$  grain (0.0365 to 0.02 gm.). Has been successively given in doses of  $\frac{1}{25}$  grain (1 mg.) in Chloroform Water, 4 times a day.—*L.*, Mar. 23, '89.

**ÆSCORCIN.**

A derivative of *Æsculetin*, a decomposition product of *Æsculin*, the glucoside of the Horse Chestnut.

Proposed as a remedy for disease of the cornea. A 10 per cent. solution in distilled water is prepared, and a drop or two poured into the eye.—*B. & C. D.*, Feb. 9, '94.

### ÆGLE MARMELOS.

**Bela.**—**Bael, Bael** (Rutaceæ) is common in dry forests in India. It is one of the sacred trees of the Hindus. The half-ripe fruit is said to be astringent, digestive, and stomachic. In atomic diarrhœa and dysentery, and in the advance stages of those diseases, it is a remedy of much value. The dried **FRUIT** and **LIQUID EXTRACT** were formerly official. A mixture extract and liquid extract are official in the **P. I.**

### ÆTHER. B.P.

**Ether ; Sulphuric Ether ; Ethyl Ether ; Diethyl Oxide.** ( $C_2H_5$ ) $O_2$ .—A very volatile and inflammable colourless liquid, prepared from Alcohol by the abstraction of a molecule of water. Stimulant, antispasmodic, and narcotic, and is also largely used as an anæsthetic, both local and general. It has less depressant action on the heart than Chloroform, but it is less pleasant to use, and great care is required in using it owing to its inflammable nature. It is not so suitable as Chloroform—for children and old people ; where there is any lung affection ; where lamps or cauteries are to be used ; in abdominal operations, and the reduction of dislocations ; in other cases Ether is preferable.—*Ring. Dose*—40 to 60 min. (2·4 to 3·5 ee.)

Ordinary Ether contains 92 per cent. of pure Ether. *Sp. gr.* 0·735. It is sometimes used as an anæsthetic.

**Æther Purus. B.P.**—Absolute Ether—Free from alcohol and water. Being pure it is better suited for general and local anæsthesia. *Sp. gr.* 0·720 to 0·722.

**Absolute Ether (Methylated.)**—*Sp. gr.* 0·717 to 0·719. Contains a small proportion of Methylie Ether, being prepared from Methylated Spirit. It is specially adapted for local anæsthesia. It is not adapted for producing general anæsthesia.

**Rectified Ether** (from Methylated alcohol).—This is Methylated Ether purified and re-distilled. Quite as suitable as, and considered by some safer than, that prepared from pure spirit. *Sp. gr.* 0·720.

**Methylated Ether.**—Sp. gr. 0·730. Suitable only for common purposes, as ice machines, etc.

*Medicinal Preparations of Ether.*

**A. C. E.**—See page 95.

**Ethereal Tinctures.**—See page 85.

**Ether Phosphoratus.**—See page 232.

**Spiritus Ætheris, B.P.**—1 in 3. *Dose*—60 to 90 minims (3·5 to 5·3 cc.).

**Spiritus Ætheris Compositus, B. P.**—Hoffmann's Anodyne. The simple Spirit of Ether (*Spiritus Ætheris*, B. P.) is known as Hoffmann's Anodyne in Continental practice.) *Dose*—60 to 90 minims (3·5 to 5·3 cc.).

**Oleum Morrhuæ cum Æthere.**—1 in 12 to 1 in 6. The Ether stimulates the pancreas and assists digestion of the Oil. A very useful remedy in phthisis. *Dose*—2 drachms (8 gm.).

**Compound Anæsthetic Ether.**—Contains Hydride of Amyl, 1 in 4. For local anæsthesia.

**Hydramyl Ether.**—A modification of the above, containing Hydride of Amyl, 1 in 2.

**Spiritus Ætheris Nitrosi, B. P.** Sweet Spirits of Nitre.—A complex preparation, which owes its properties chiefly to Nitrite of Ethyl and Paraldehyde. *Dose*—60 to 90 minims (3·5 to 5·3 cc.).

**Æthyl Nitris:** Nitrite of Ethyl.—A liquid boiling at 63·5° F. Used only for inhalation.

**Liquor Æthyl Nitritis.**—3 per cent. *Dose*—20 to 60 minims (1·2 to 3·5 cc.).

Store in small bottles.—*M.* Introduced as a more stable preparation than spiritus ætheris nitrosi, and containing the same active ingredient, but no aldehyde.

**Æther Aceticus, B. P.**—Acetic Ether. Acetate of Ethyl. *Dose.*—60 to 90 minims (3·5 to 5·3 cc.). Used in preparing Liquor Epispasticus.



## ÆTHYL BROMIDUM.

**Bromide of Ethyl; Bromethyl; Hydrobromic Ether; Æther Bromatus;**  $C_2H_5Br$ .—A volatile, colourless liquid, prepared from Alcohol and Bromide of Potassium. On keeping it is apt to decompose, liberating Bromine; this may be prevented by the addition of alcohol, and exclusion of air and light—*Sq.* Sp. gr. 1.420. Soluble 1 in 70 of water, freely in alcohol and ether. Has been used as a local and general anæsthetic, chiefly in dental operations and minor surgery. Causes anæsthesia in 2 or 3 minutes. It is administered in the same manner as Ether, a mixture of Æthyl Bromide 1, Chloroform 3, and Aleohol 4, being sometimes used. It is also inhaled to relieve migraine.

Has been recently condemned as unsafe, especially in dental practice, 3 deaths having resulted from its administration—*L.*, Sept. 20, '90. Difficult to obtain pure, being usually contaminated with Bromine, Bromoform, etc., hence its danger.—*B. M. J.*, Oct. 11, '90.

**Bromide of Ethyl Capsules.**—5 minims each. For inhalation.

## ÆTHYLENI BROMIDUM.

**Bromide of Ethylene.**  $C_2H_4Br_2$ .—Not to be confounded with Bromide of Ethyl. A colourless liquid containing 90.9 per cent. of Bromine. Soluble 1 in 4 of 90 per cent. alcohol; mixes with oils; insoluble in water. Has been used in epilepsy.

*Dose*—1 to 2 minims (0.06 to 0.12 cc.) in spirituous solution, in milk or capsules; hypodermically in oil.

## ÆTHYL CHLORIDUM.

**Chloride of Ethyl. Hydrochloric Ether.**—A colourless liquid, with a sweet burning taste. Only slightly soluble in water, readily so in alcohol. Sp. gr. 0.921. Boiling point about 50° F. Used largely in dentistry for tooth extraction, and in minor operations. Supplied in glass tubes of various sizes, the points of which are directed to the part required to be anæsthesised, the warmth of the hand being sufficient to volatilize the Chloride of Ethyl. The vapour is inflammable.

**Anestile, or Anesthyl.**—A local anæsthetic which evaporates at a lower temperature than Ethyl Chloride. It is a mixture of Ethyl Chloride and Methyl Chloride. Sold compressed in plated copper cylinders containing about 120 cc.

**Coryl** is a mixture like Anestile.

### ÆTHYL IODIDUM.

**Iodide of Ethyl; Hydriodic Ether.**  $C_2H_5I$ .—A colourless liquid, with a penetrating ethereal odour, not very inflammable. Sp. gr. 1.94. Becomes brown on exposure owing to liberation of Iodine. Very slightly soluble in water, freely in alcohol and ether.

Relieves the dyspnoea of bronchitic asthma and œdematous laryngitis. As an inhalation, 5 minims (0.30 cc.) 3 or 4 times a day.

**Capsules of Iodide of Ethyl.**—5 minims each (0.30 cc.) For inhalation.

Ethyl Iodide does not weaken the digestive organs, but has a tonic effect. It is also used in secondary and tertiary syphilis as an adjunct to Iodide of Potassium.—*Squibb*. Also as a vesicant and application to the uterus—*L.*, '85, ii, 755. It contains 80 per cent. of Iodine, and forms a rapid means of saturating the system with this element.—*M.*

**Capsules of Iodide of Ethyl and Chloroform.**—5 minims (0.30 cc.) Iodide Ethyl, 10 minims (0.6 cc.) Chloroform. For inhalation.

### AGARICUS ALBUS.

**White or Purging Agaric; Agaric of Larch**—also known as *BOLETUS LARICIS*; *FUNGUS LARICIS*; *POLYPORUS OFFICINALIS*; *TOUCHWOOD*.—A fungus which grows on the Larch. In commerce it is deprived of the outer rind, and thus occurs in white, irregular pieces, spongy, light and friable, with a faint odour and sweetish, afterwards bitter, taste. Must not be confounded with Fly Agaric, *Amanita Muscaria*: from which Muscarine is obtained (see p. 208). Agaric is purgative in large, astringent in small doses. It is given to check night-sweats, to diminish bronchial secretion, to dry up the milk, and in hæmoptysis.



*Dose*—10 to 30 grains (0·65 to 2 gm.) in powder.

**Extractum Agarici.**—Alcoholic. *Dose*—3 to 6 grains (0·2 to 0·4 gm.) in pill.

**Extractum Agarici Liquidum.**—Not miscible with water. *Dose*—3 to 20 minims (0·18 to 1·2 cc.).

**Tinctura Agarici.**—1 in 10. *Dose*—20 to 60 minims (1·2 to 3·5 cc.).

**Agaric Acid; Laricic Acid; Agaricin.**—Agaric Acid occurs in minute white crystals soluble in alcohol, chloroform and ether; boiled with water forms a gelatinous solution. Given for night-sweats in pill, combined with Dover's powder. *Dose*— $\frac{1}{4}$  to 1 grain (0·01 to 0·065 gm.).

**AIROL**—See page 68.

## AJOWAN (PTYCHOTIS), P.I.

**Bishop's Weed; Ajwain; Omum.**—The fruit of *Carum (Ptychotis) Ajowan* (Umbelliferae), cultivated in India Small, possessing a strong odour of Thymol, and one of the official (B. P.) sources of that substance. Stimulant, carminative, antispasmodic, and antiseptic. Largely used in India as a remedy for flatulence, colic, atonic dyspepsia, diarrhoea, and cholera.

**Oleum Ptychotis**—Oil of Ajwain or Omum.—Distilled from the fruit. *Dose*—1 to 3 minims (0·06 to 0·18 cc.) on sugar or in emulsion.

**Aqua Ptychotis**—Ajwain or Omum Water.—Distilled from the fruit. A valuable carminative, specially useful for disguising the taste, and correcting the nauseating and griping properties of drugs like Castor Oil. *Dose*—1 to 2 ounces (30 to 60 cc.).

**Extractum Ptychotis Liquidum.**—Not miscible with water. *Dose*—10 to 30 minims (0·6 to 1·8 cc.).

The crystalline substance sold in the bazaars as *Ajwain-ka-phul*, is a stearoptene, prepared from the fruits, and similar to Thymol. See also **Thymol**, page 293.

**ALCOHOL ABSOLUTUM, B. P.**

**Ethyl Alcohol. B. P., 1885.**—Ethyl Hydroxide,  $C_2H_5OH$ , with not more than 1 per cent. by weight of water Sp. Gr. from 0.794 to 0.7969.

**Alcohol (90 per cent.).**—Spirit Rectificatum, B. P., containing 90 parts by volume of Ethyl Hydroxide. Sp. Gr. 0.8340. 57.80° O.P. Slightly stronger than, and replaces Spiritus Rectificatum B. P., 1885.

**Diluted Alcohol. B. P.**—The four official liquids obtained, by diluting Alcohol (90 per cent.) with Distilled Water, as under—

1. Alcohol (70 per cent.). Sp. gr. 0.8900. O.P. 22.78°.
2. Alcohol (60 per cent.). Sp. gr. 0.9135. O.P. 5.20°.  
Replaces Spiritus Tenuior, B. P., 1885.
3. Alcohol (45 per cent.). Sp. gr. 0.9436. U.P. 21.07°.
4. Alcohol (20 per cent.). Sp. gr. 0.9760. U.P. 64.95°.

**Spiritus Methylyatus.**—Methylated Spirit; Rectified Spirit.—Containing 10 per cent. by volume of Wood Naphtha. Sp. gr. 0.827 to 0.828. In Bombay and Calcutta, Rectified Spirit containing 1 per cent. of Caoutchoucine practically replaces methylated spirit for use in making polishes and for burning.

**Spiritus Myrciæ.**—U. S. Bay Rum.

**Alcohol Allylicum.**—Allyl Alcohol; Allyl Hydroxide.—A colourless liquid which mixes with water; has a pungent odour and burning taste. A powerful antiseptic.

**Alcohol Methylicum.**—Methylic Alcohol; Pyroxilic Spirit. Sp. gr. 0.796. The commercial variety is known to the trade as Wood Naphtha.

**Cristalline, a Collodion.**—Pyroxilin 5, dissolved in a mixture of Methylic Alcohol 20, and Pure Acetate of Amyl. 75.

**Acetone.**—Dimethyl-ketone.—Sp. gr. 0.796; if it contains 10 per cent. of water, 0.826. Used as a solvent of fats and resins and in the manufacture of Chloroform. Used also in making

**Spirone,** a mixture of Acetone 10, Iodide of Potassium 2, Glycerine 24, Water 64. A speciality said to be useful in Asthma.

## ALDEHYDUM.

**Aldehyde; Acetaldehyde.**  $\text{CHCHO}$ .—An oxidation product of Alcohol, intermediate between it and Acetic Acid. A colourless liquid with a characteristic odour, miscible with water, alcohol, and ether. It readily oxidises into Acetic Acid. It is only used diluted.

**Aldehydum Dilutum, T. H.**—15 per cent. A colourless, neutral liquid, with a suffocating odour.

**Vapor Aldehydi, T. H.**—80 minims to 1 ounce. A teaspoonful of this in a pint of water at  $140^{\circ}$  is used for catarrhal congestions and ozæna.

**Aldehydum Formicum**,—Formic Aldehyde.—An active antiseptic. has an advantage in not being very poisonous.

**Formaldehyde (Formol. Formalin).**—A solution of Formic Aldehyde in water containing 35 per cent.

As a disinfectant 1 or 2 per cent. solution sprayed about rooms.

As a hardening agent in microscopy does not cause shrinking of tissue. Used for this purpose diluted about 30 times.

**Trioxymethylene** (Paraform, Triformol, Paraformic Aldehyde).—A fine white powder, soluble in boiling water, caustic soda, and Baryta water. When sublimed, it is converted into formaldehyde, and can be used in this manner as a disinfectant.

**Paraldehyde.**—See page 223.

**Metaldehyde.**—See page 223.

## ALETRIS.

The rhizome and rootlets of *Aletris farinosa*, Linn., South America, known as True Unicorn, Colic root, etc. Said to be valuable in amenorrhœa, dysmenorrhœa, prolapsus uteri, sterility, etc., and to prevent miscarriage. Highly recommended as a uterine tonic, being especially indicated in cases where abortion is feared in which cases it should be continuously administered during entire gestation. Also said to be tonic, diuretic, and vermifuge.

*Dose*—10 grains (0.65 gm.) in powder.

**Extractum Aletris (Solid).**—*Dose*—2 to 5 grains (0.13 to 0.32 gm.).

**Extractum Aletris Liquidum.**—*Dose*—10 to 30 minims (0·6 to 1·8 cc.)

**Tinctura Aletris.**—*Strength*—1 in 8. *Dose*—1 to 2 drachms. (3·5 to 7 cc.)

**Decoctum Aletris.**—*Strength*—1 in 20. *Dose*— $\frac{1}{2}$  ounce (15 gm.)

**Aletris Cordial.**—An imported preparation. *Dose*—A teaspoonful 3 or 4 times a day.

**Aletrin.**—An American concentrated preparation. *Dose*— $\frac{1}{2}$  to 4 grains (·032 to 0·26 gm.)

### ALLYLTRIBROMIDUM.

**Tri-bromhydrin; Tri-bromo-propane.**  $C_3H_5Br_3$ .—A colourless liquid, very soluble in ether, boiling at  $220^\circ$  C. A powerful nervous sedative, retarding or suspending the convulsions produced by Picrotoxin and Strychnine. Has been recommended for hysteria, asthma, whooping cough, angina pectoris, infantile convulsions, gastralgia, and neuralgia.

*Dose*—Hypodermically, 2 to 3 minims (0·12 to 0·18 cc.), dissolved in 15 to 30 minims (0·9 to 1·8 cc.) of Ether. This injection causes pain, probably due to the ether.

Internally, 5 to 10 minims in capsules, 3 or 4 times in 24 hours.

### ALSTONIA, P. I.

**Dita Bark.**—The bark of *Alstonia scholaris* (Apocynaceæ), a common tree throughout India. In irregular fragments of a spongy texture, and purely bitter taste without aroma. Contains an alkaloid *Ditaine* to the extent of 0·05 per cent., which is said to rival Quinine, and has been used for this purpose. The milky juice of the tree furnishes a substance resembling gutta-percha. The bark is an astringent tonic, anthelmintic, and antiperiodic. It is very valuable in chronic diarrhoea and dysentery, and as a tonic in convalescence from exhausting diseases.

*Dose*—3 to 5 grains (0·2 to 0·32 gm.), in powder or pill; combined, in bowel affections, with small doses of Ipecacuanha and Extract of Gentian.

**Tinctura Alstoniæ, P. I.**—1 in 2. *Dose*—1 to 2 drachms (3·5 to 7 cc.)

**Infusum Alstoniæ, P. I.**—1 in 20. *Dose*—1 to 2 ounces (30 to 60 cc.)

**Extractum Alstoniæ Liquidum.**—Miscible with water. *Dose*—3 to 8 minims (0.18 to 0.5 cc.)

## ALSTONIA CONSTRICTA.

**Queensland Fever Bark.**—The bark of *Alstonia constricta* (Apocynacæ) of Australia. Contains an alkaloid *Alstonine* or *Chlorogenine*. The bark and its preparations have been used with much success as a substitute for Cinchona in fever and ague, especially some forms of remittent fever which do not yield to the latter. It is generally considered inferior to Dita Bark.

*Dose*—5 grains (0.32 gm.)

**Tinctura Alstoniæ Constrictæ.**—1 in 10. *Dose*— $\frac{1}{2}$  to 2 drachms (3.5 to 7 cc.)

**Extractum Alstoniæ Constrictæ Liquidum.**—Precipitated by water. *Dose*—2 to 5 minims (0.12 to 0.30 cc.)

## ALUMINIUM SALTS.

**Alumen, B.P.**—The double Sulphate of Potash (or Ammonia) and Aluminium. *Dose*—2 to 20 grains (0.13 to 1.3 gm.); as an emetic, 1 drachm (4 gm.) or more.

**Alumen Exsiccatum, B.P.**—Dried Potassium Alum. 100 parts of Alum yield 54 of dried Alum. Used externally as an escharotic.

**Glycerinum Aluminis.**—See page 150.

**Liquor Aluminii Acetici, P.G.**—A colourless liquid, containing  $7\frac{1}{2}$  to 8 per cent. of Subacetate of Aluminium. A powerful antiseptic and astringent, used as a dressing. Best employed after diluting with twice its bulk of water.

**Aluminii Aceto-Tartras (Absol).**—In crystals, soluble in their own weight of water. Antiseptic and astringent. 30 to 60 grains to 1 pint of water forms a useful gargle or douche.

**Aluminii Chloridum.**—A white amorphous powder, very deliquescent. *Dose*—2 to 4 grains (0.13 to 0.26 gm.)

**Liquor Aluminii Chloridi.**—A pale yellow liquid, astringent and antiseptic. 3 to 15 minims to 1 ounce of water forms a spray, gargle or paint. The preparation known as **Chloralum** is similar to this in composition, but is less pure and much weaker.

**Aluminii Nitras.**—Used in the form of solution, 4 to 6 grains in 1 oz. of water, for pruritus vulvæ.

**Aluminium Oleate.**—See page 215.

**Aluminium Sulphite;  $Al_2(SO_3)_3$ .**—A white powder insoluble in water. An unirritating and non-poisonous antiseptic. Said to be equal in effect to the Acetate, and somewhat less than half as powerful as Hydrarg. Perchlor. 30 grains may be safely administered internally. *Ph. Rec.*, Nov. 1, '88; *Ph. J.*, Dec. 1, '88.

**Aluminium Bisulphite;  $Al_2H_6(SO_3)_6$ .**—Similar to the Sulphite, but soluble in water, and may be used where a liquid antiseptic is required.—*Ph. Rec.*, Nov. 1, '88.

**Cuprum Aluminatum. Lapis Divinus. P. G.**—A fused mixture of equal parts of Alum, Sulphate of Copper, and Nitrate of Potassium, with  $\frac{3}{8}$  part of Camphor.

**Alumnol.**—Aluminium Naphtholdisulphonate. Fine light greyish, non-hygroscopic powder; readily soluble in cold water, also in Spirit and Glycerine. Has been used in the treatment of Laryngitis and Pharyngitis, in  $\frac{1}{2}$  to 5 per cent. solutions.

**Sozal.**—An aluminium salt of para-phenol-sulphonic acid. Introduced as an antiseptic. Soluble in water, glycerine, and spirit. *Dose*—3 to 8 grains (0.2 to 0.52 gm.)

**Saluminum Salumin; Insoluble Salumin.**—(Aluminium Salicylicum).—A fine, slightly reddish, crystalline powder, slightly soluble in water and soluble salimin (Aluminium Salicylicum ammoniatum), a yellowish white powder, easily soluble in nine parts of water with a neutral reaction. Stimulates the mucous membrane very powerfully, and is used in dry inflammations of the throat and nose, as a dusting powder, or in Glycerine solution.

**Gallal.**—Gallate of Aluminium. An insoluble salt, but forms a soluble ammonium salt which is obtained in scales. An astringent.

**Tannal**—(Aluminii Tannico-Tartras).—Described as a double salt of aluminium with tannic acid and tartaric acid. Yellowish white powder or scales, soluble in two parts of water. Used, like the two former as an astringent.

**Boral.**—Aluminum Borotartrate, soluble in water. Used as an antiseptic and astringent in skin diseases. Applied as a dusting powder.

**Cutol.**—Aluminum Borotannate, insoluble in water, but becomes soluble by the addition of Tartaric acid. In this soluble form it has been successfully used in acute gonorrhœa. It contains 76 per cent. tannin, 13.23 per cent. alumina, 10 per cent. Boric acid.

**Aluminum Boroformate.**—Large pearly scales, which dissolve slowly in water or dilute alcohol, the solution has an acid reaction and astringent taste. Used as a mild antiseptic and astringent.—*Ph. J.* 1st Jan., '94.

**Alumino Potassium Salicylate.**—An antiseptic salt, made by mixing solutions of potassium acetate and aluminum salicylate in synthetic proportions.

## AMMONIUM.

Until recently 'Volcanic' Ammonia, obtained as a by-product in the manufacture of borax, was considered the only reliable form from which to prepare Ammonium salts for medicinal purposes, the Ammonia obtained from gas liquor, the chief commercial source, being apt to contain many impurities. The scarcity of Volcanic Ammonia, however, has led to the better purification of that obtained from coal and shale, with the result that this Ammonia may now be had sufficiently pure for medicinal use.

**Ammonii Benzoas, B.P.**  $\text{NH}_4\text{C}_7\text{H}_5\text{O}_2$ .—Occurs in colourless laminar crystals, soluble 1 in 5 of cold water, 1 in 20 of rectified spirit. Action diuretic, useful for dropsy and gout. It acts more quickly than Benzoic Acid. Has also been recommended in 15 grain doses for scarlet fever. It stimulates the liver, but is



inferior in this respect to Benzoate of Sodium. *Dose*—5 to 15 grains (0.32 to 1 gm.) in water.

**Ammonii Bicarbonas.**—In small white crystals, soluble in water. Said to be more palatable than the official Carbonate. *Dose*—3 to 10 grains (0.2 to 0.65 gm.)

**Ammonii Bromidum. B.P.**—Causes less depression than the Potassium salt. Incompatible with acids and Sp. Æth. Nit. *Dose*—5 to 30 grains (0.32 to 2 gm.)

**Lozenges**, of 2 grains each, are used for whooping cough.

**Rubidium-Ammonium Bromide.**—In white granular crystals. Said to be more powerful than Potassium Bromide. It having been noticed that the activity of the bromides is proportional to their atomic weight, this compound has been selected as having a high atomic weight. It is, however, rather an expensive remedy.—*Ph. J.*, July 27. '89; *B. M. J.*, '90, i. 43.

*Dose*—6 grainmcs (90 grains) per diem.

**Ammonii Carbonas, B.P.**, Carbonate or Sesquicarbonate of Ammonia. A mixture of Acid Carbonate and Carbonate of Ammonium.

*Dose*—3 to 10 grains (0.2 to 0.65 gm.)

**Ammonii Chloridum, B.P.** (*Sal ammoniac*)  $\text{NH}_4\text{Cl}$ .—In tough fibrous masses, or white granular crystals, the latter being the purer form. Soluble 1 in 3 of water; 1 in 55 rectified spirit. Acts as an expectorant in chronic bronchitis, for which it should be given in 20 grain doses every 3 or 4 hours, mixed preferably with Liqueur.—*Ring*. Similar doses may be given either alone or combined with Tinet. Opii and Magnes. Sulph. for neuralgia, for which it is said to be a certain cure.

Chloride of Ammonium is largely used in India in hepatic congestion and abscess.

*Dose*—5 to 20 grains (0.32 to 1.3 gm.)

**Ammonium Chloride Lozenges** (2 and 3 grs.) and **Compressed Tablets** (3 and 5 grs.) are convenient means of administering the drug.

**Lotio Ammonii Chloridi.**—1 in 12. As a dressing for bruises.



**Chloride of Ammonium Inhaler.**—An apparatus so constructed as to mix the fumes of Ammonia and Hydrochloric Acid in such a manner that a *perfectly neutral* vapour of Chloride of Ammonium may be formed, which, when brought into immediate contact with the air passages of the throat, affords quick relief in cases of bronchial and catarrhal affections.

Ammonium Chloride is incompatible with alkalies, alkaline earths and their carbonates; also lead and silver salts.

**Ammonii Embelas; Ammonium Embelate.**—The Ammonium Salt of an acid isolated from *Embelia Ribes*; it occurs as red acicular crystal. As an anthelmintic in mixture with honey or syrup, preceded and followed by a dose of castor oil.

*Dose*—6 grains (0·4 gm.), children 3 grains (0·2 gm.)

**Ammonii Fluoridum.**—See page 13.

**Ammonii Iodidum, U. S. P.**—A white, deliquescent, granular salt, readily becoming yellow on exposure to air and light, owing to liberation of Iodine. Odourless when white. (A piece of Carbonate of Ammonia placed in the bottle will restore the salt if coloured.) Soluble 1 in 1 of water; 1 in 9 of rectified spirit.

Action similar to Iodide of Potassium. It is more easily borne, causing less depression, and is preferred in syphilis and rheumatism.

*Dose*—3 to 20 grains (0·2 to 1·3 gm.)

**Ammonii Nitras, B. P. 1885.**—For preparing Nitrous Oxide gas.

**Ammonii Persulphas,** Persulphate of Ammonium  $(\text{NH}_4)_2\text{S}_2\text{O}_8$ . Small colourless crystals turbidly soluble in water; its aqueous solution evolves active oxygen when heated. Is recommended as an antiseptic for preserving food. Innocuous to the human organism. *A.M.S.B.*, Feb. 15, '95.

**Ammonii Phosphas, B.P.**—Valuable in uric acid, calculus, and as a hepatic stimulant. *Dose*—5 to 20 grains (0·32 to 1·3 gm.)

**Ammonii Picras.**—See page 16.

**Ammonium Succinate** has been used in labour cases which were protracted on account of spasmodic contractions of the uterus.

**Ammonii Sulpho-ichthyolas.**—See page 172.

**Ammonii Salicylas.**—See page 20.

**Ammonii Valerianas.**—Colourless crystals, soluble in water and spirit. *Dose*—1 to 8 grains (0·065 to 0·52 gm.)

**Linimentum Ammoniae, B.P.**—1 in 4.

**Linimentum Opii Ammoniatum, B.P.C.**—Similar to "Bow's Liniment."

**Liquor Ammoniae, B.P.**—Sp. gr. 0·959. *Dose*—10 to 20 minims (0·6 to 1·2 cc.), given for snake bite.

**Liquor Ammoniae Fortior, B.P.**—Sp. gr. 0·891. Three times the strength of the preceding. Also used for snake-bite. *Dose*—3 to 6 minims (0·18 to 0·35 cc.)

**Liquor Ammoniae Fortissimus.**—Sp. gr. 0·830.

**Liquor Ammonii Acetatis Fortior, B.P. 1885.**—*Dose*—25 to 75 minims (1·5 to 4·5 cc.)

**Liquor Ammonii Acetatis, B.P.**—Contains one of the 1st to 4 of water. *Dose*—2 to 6 drachms (7 to 21 cc.)

**Liquor Ammonii Citratis Fortior, B.P. 1885.**—*Dose*—30 to 90 minims (1·8 to 5·3 cc.)

**Liquor Ammonii Citratis, B.P.**—*Dose* 2 to 6 drachms (7 to 21 cc.)

**Spiritus Ammoniae Aromaticus, B.P.**—Sp. gr. 0·896. *Dose*—60 to 90 minims (3·5 to 5·3 cc.)

**Spiritus Ammoniae Foetidus, B.P.**—*Dose*—60 to 90 minims (3·5 to 5·3 cc.)

**Tinctura Ammonia Composita.—P.L.** *Eau de Lucc.*  
Relieves the inflammation caused by bites of insects.

**Ammonol.**—(Ammonium phenyl-acetamide), in amorphous crystals, of pale yellow colour, with pungent ammoniacal taste and odour. An antipyretic and analgesic. Has no action on the heart. *Dose*—5 to 20 grains (0·32 to 1·3 gm.), also prepared as SALICYLATE, BROMIDE, AND LITHIATE.—*B. & C. D.*, Nov. 22, '95.

**Tinctura Guaiaci Ammoniata, B.P.**—*Dose*— $\frac{1}{2}$  to 1 drachm (1·8 to 3·5 cc.)

**Tinctura Valerianæ Ammoniata, B.P.**—*Dose*— $\frac{1}{2}$  to 1 drachm (1·8 to 3·5 cc.)

### AMYGDOPHENIN.

A coal tar product, analogous to Phenacetin—small white crystals slightly soluble in water and alcohol—In Rheumatic fever and neuralgia. *Dose*—8 to 15 grains (0·52 to 1 gm.)

### AMYL HYDRIDE.

**Pentylene; Hydramyl; Rhigolene** (impure variety).  $C_5H_{12}$ .—One of the lightest liquids obtained in the fractional distillation of Petroleum Spirit. Sp. gr. 0·628—0·636, boiling point about 86°F. A very inflammable liquid; produces general anæsthesia when inhaled, also when applied locally acts as an anæsthetic by freezing the part. It enters into the composition of *Anodyne Amyl Colloid* (page 23), and *Anæsthetic Ethers*.

### AMYL NITRIS, B. P.

A yellowish ethereal liquid with a peculiar odour, produced by the action of Nitrous or Nitric Acid upon Amylic Alcohol. It contains 40 to 50 per cent. of Amyl Nitrite,  $C_5H_{11}NO_2$ , 10 per cent. Iso-butyl Nitrite (see page 40), the remainder being Propyl Nitrite and several non-active constituents.—*Ph. J.*, Dec. 22, '88. It varies in composition according to the process employed in its manufacture. Insoluble in water, freely soluble in spirit, chloroform, etc.

Nitrite of Amyl dilates the vessels and lowers the blood pressure.—*Ph. J.*, Dec. 22, '88. It is given by inhalation or by the mouth for angina pectoris, sea-sickness, ague, etc.; also as an antidote to Cocaine (*B. M. J.*, '88, i. 757), Chloroform and Strychnine. 8 minims, inhaled, acts beneficially in *status epilepticus*. *B. M. J.*, Aug. 10, '89.

*Dose*—By inhalation, 2 to 5 minims (0·12 to 0·3 cc.); by the mouth,  $\frac{1}{2}$  to 1 minim (0·03 to 0·06 cc.)

**Amyl Nitrite Capsules.**—1, 2, 3 and 5 minims, enclosed in a glass capsule covered with cotton wool, for convenience in inhaling.

**Mistura Amyl Nitritis.**—4 minims in 1 ounce, for sea-sickness. *Dose*—1 to 2 drachms (3·5 to 7 cc.)

**Tertiary Amyl Nitrite.**—Prepared from Tertiary Amyl Alcohol, or Amylene Hydrate (see below). A mobile, amber-coloured liquid with an odour compared to camphor and terpin, soluble in alcohol, slightly soluble in glycerine, and insoluble in water. Has an action similar to the primary Nitrite, but more marked and permanent, and as it does not cause flushing of the face, and is said to be free from danger, it can be inhaled in quantities of 80 to 100 drops daily.

**Iso-butyl Nitrite,  $C_4H_9NO_2$ .**—This has been proved to be more active than *B. P.* Amyl Nitrite, of which it constitutes about 10 per cent., and being at the same time more definite in composition than the latter, has been recommended as more reliable.

*Dose*—3 to 5 minims (0·18 to 0·30 cc.) by inhalation.—*Ph. J.*, Dec. 22, '88. This substance is difficult to preserve in a tropical climate.

## AMYLENI HYDRAS.

**Tertiary Amyl Alcohol; Ethyl-Dimethyl-Carbinol;  $C_2H_5(CH_3)_2COH$ .**—A colourless oily liquid soluble in 8 to 12 parts of water, freely in alcohol. Sp. gr. 0·812. It acts as a hypnotic, occupying a position intermediate between Chloral and Paraldehyd, being safer than the former, and more free from smell than the latter. It does not disturb the stomach, but occasionally causes headaches, giddiness, and symptoms similar to alcoholism. It is antagonistic to Strychnine. On the whole, it has been found to be a most satisfactory hypnotic. Whether it falls by repeated doses or leads to a craving, has not yet been established. Contra-indicated in febrile conditions.—*K.*, Jan. '93.

Has been tried in epilepsy, with fair success, 5 to 8 grammes *per diem*. Caused excitement after the effects had worn off.—*B. M. J. (Supplement)*, Nov. 22, '90.

*Dose*—30 to 80 minims (1·8 to 4·7 cc.), with Ext. Glycyrrhizæ or i Capsules.

**Pental.**—Under this name an isomeric **Amylene** (trimethyl-ethylene) has been recommended as an anæsthetic in dental cases. It is very volatile and inflammable. Boils at 100° F. administered as chloroform, an æsthesia is produced in 3 or 4 minutes and lasts about 4 minutes.—*M.*

### AMYLOFORM.

An inodorous white powder produced by the action of formic aldehyde on starch, insoluble in any menstruum. Has marked antiseptic properties. Useful as dressing for wounds and preferable to Iodoform. *Ph. J. Mar.* 10. '96.

### ANACARDIUM.

**Cashew Nut; Kaju.**—The seeds of *Anacardium occidentale*, Linn. (Anacardiaceæ), an American plant cultivated in India. They are imported in large quantities into Bombay from Goa. A spirit distilled from the fermented juice expressed from the thalamus is said to possess diuretic and sudorific properties, and to be a valuable application in rheumatism.—*Pg. Ind.* i. 386. A tarry liquid obtained from the pericarp by heat contains 90 per cent. *Anacardic Acid* and 10 per cent. *Cardol*, and is used as a vesican and counter-irritant, also an application for leprosy, ring-worm, corns, and obstinate ulcers. Being insoluble in the fluids of the alimentary canal, 3 or 4 drops may be swallowed without marked effect. It is applied to wood and books to prevent attacks of white ants.

The kernel has a sweet and agreeable taste. The oil obtained from it by expression is very similar to olive oil, the finer qualities equalling almond oil.

**Unguentum Anacardii.**—1 part of the Tar to 8 of Lard or Vaseline. Used as a blistering ointment.

**Tinctura Anacardii.**—1 part of the pericarps to 10 of Rectified Spirit. *Dose*—2 to 10 minims (0.12 to 0.6 cc.) as a vermifuge.

The fruit of *Semecarpus Anacardium*, Linn., the Marking-nut tree of India, contains an oil which is said to possess similar properties.

### ANALGENE.

A coal tar production, in colourless crystals, insoluble in water,

readily soluble in hot alcohol. Possesses pre-eminent analgesic properties, and is ranked side by side with Phenacetin and Antifebrin as an anti-neuralgie. No unpleasant bye or after effects observed. The urine assumes a red colour during treatment.

*Dose*—8 to 15 grains (0.32 to 1 gm.)

**ANDROGRAPHIS PANCULATA.**—See Karayat, page 189.

### ANDROPOGON CITRATUS.

**Lemon grass**—A grass, cultivated, in India and Ceylon (Graminaceæ). A volatile oil (LEMON GRASS OIL, OIL OF VERBENA INDIAN MELISSA OIL) is obtained by distillation from the fresh plant.

Used externally as an embrocation in rheumatism, neuralgia sprains, etc. Internally in flatulent and spasmodic affections, of the bowels. In cholera it proves serviceable.

*Dose*—3 to 6 drops on sugar or in emulsion.

### ANAGRIS FÆTIDA.

A Mediterranean Leguminosa known popularly in the French as "*bois puant*." The shrub like tree emits a disagreeable odour when shaken, which seems to emanate chiefly from the bark. In ancient times the seeds were employed for emetic purposes.

**Anagrine Hydrobromide.**— $C_4H_{13}N_2O_2, HB_2$  is a salt of the alkaloid obtained from the seeds of *Anagris Fætida*. Occurs in small white shining crystals, soluble in water and alcohol. Therapeutic data are wanting.

**ANEMONIN.**—See page 251.

**ANESTILE.**—See page 28.

### ANHALONINE.

An alkaloid contained in the Mexican *Cactus Anhalonium Lewinii*, which is used by the natives as an intoxicant, and was



tested chemically and pharmacologically for the first time in 1888 by L. Lewin. *Anhalonine* occurs in both amorphous and crystalline forms, both are soluble in ether, alcohol, etc., and possess a strychnine and brucine-like action. Clinical data are yet wanting. The finding extract of the drug has been tried in angina pectoris, asthmatical dyspnœa, with success, but seems to produce unpleasant secondary symptoms.

**Anhaline.**—Prepared from *Anhalonium fissuratum*, another of the cactææ.

**Pellotin.**—Analkaloid from *Anhalonium Williamsii*, which yields salts with acids, that as a rule, crystallize well. The *Hydrochloride* had been used to produce sleep in patients suffering from painful affections, and as a nypnotic. A. M. S. B. 31 Oct., '96.

## ANILINE.

**Phenylamine; Monophenylamine; Amido-Benzene;  $C_6H_5NH_2$ .**—A colourless, oily liquid, with a characteristic odour. Sp. gr. 1.028. Obtained from coal-tar. Soluble in alcohol, ether and oils. It gradually assumes a pale straw colour when exposed.

Aniline is used in the *Aniline treatment of phthisis*, which consists essentially in the inhalation of one part Aniline and 7 of Oil of Eucalyptus or some similar diluent. The Aniline being a bactericide is supposed to destroy the tubercle bacilli in the blood, but the treatment has been reported on very unfavourably, toxic symptoms having been developed.

**Aniline Camphorate;  $(C_6H_5NH_2)_2C_{10}H_{16}O$ .**—In small white or pinkish prisms, soluble in water, glycerine, alcohol, etc., and having a pungent acrid taste. It has antispasmodic properties, and a solution in glycerine and water has been recommended for hypodermic use in phthisis.—*Ph. J.*, June 25, '87. Dose—1 to 3 grains. (0.065 to 0.2 gm.)

**Aniline Sulphate.**—Dose  $\frac{1}{2}$  to 3 grains. (0.032 to 0.2 gm.) Has been used in asthma, but is likely to cause cyanosis.

*Aniline Colours.*—

**Methylene Blue.**—Tetramethylthionine Chloride. An aniline derivative in dull dark green crystals forming an intense blue solution with water.

Recommended as an analgesic and in painful nervous affections. Colours the urine blue. Internally for gonorrhœa.

*Dose*—1 to 4 grains. (0.035 to 0.26 gm.)

**Pyoktanin, Methyl-violet.**—Has been found to possess antiseptic properties in a marked degree. A solution 1 in 1,000 is recommended for eye diseases, ulcers, etc.—*M. R.*, Oct. '90; *L.*, Nov. 8, '90. The fact that bacteria readily absorb aniline dyes and perish thereby led to the suggestion. Pyoktanin is sent out in two varieties, **Blue** for surgical, and **Yellow\*** for ophthalmic purposes. Both are made into Dusting Powder (2 per cent.) Ointment (2 per cent.), and Gauze (1 in 1,000).—*U. & D.* Nov. 1, '90. The stains may be removed by alcohol, etc., from the skin; those in the eye give no trouble.—*L.*, Nov. 8, '90.

Injection of a 1 in 1,000 and 1 in 500 solution of Blue Pyoktanin twice daily, cured 4 cases of obstinate chronic cystitis in 10 to 14 days—*B. M. J. (Supplement)*, Nov. 22, '90. Since then a number of more or less successful cases have been reported.

**Fuchsin;** Rosaniline Mono-hydrochloride; Magenta; Roseine.—A mixture of the hydrochlorides of Para-rosaniline and Rosaniline. In iridescent beetle-coloured crystals, soluble in water, forming an intense crimson solution. It is much used as a stain for bacilli, and in microscopic work generally. Very useful in renal albuminuria, also in cancer. For medicinal use it should be perfectly pure, commercial samples usually containing a variable quantity of arsenic.

It colours the urine and frequently the stools. *Dose*— $\frac{1}{2}$  to 4 grains (0.032 to 0.26 gm.) in pill.

## ANTHOXANTHUM ODORATUM.

**Sweet vernal grass.** The odor of the flower when drying is due to coumarin. A tincture of the herb (1 in 10 weak spirit) has been used as a remedy for hay fever, the cause of which is said to be principally the pollen of the flowers of anthoxanthum. *Dose*.—2 to 6 min. (0.12 to 0.35 cc.)

\* A substance similar to Yellow Pyoktanin, i. sold as *Apyonin*



## ANTHRAROBIN.

**Desoxyalizarin.**—A reduction product of Alizarin. A light brown powder insoluble in water, but soluble in alcohol and alkaline solutions. It has been recommended as a substitute for Chrysarobine, on the assumption that the medicinal value of the latter depends on its avidity for oxygen, whereby it becomes converted into Chrysophanic Acid (*see* page 53). Anthrarobin oxidises readily when exposed to the air, and is recommended to be applied in psoriasis, eczema, erysipelas and other cutaneous affections. It is used as a 10 p. c. ointment or tincture, applied after washing the parts with potash soap.

## ANTIFEBRIN.

**Acetanilidum, B.P.; Phenylacetamide.**  $C_6H_5NH.C_2H_3O$ .—A white crystalline powder, prepared from Aniline and Glacial Acetic Acid. Produces a burning sensation on the tongue. Very slightly soluble in water, more soluble in hot water, freely soluble in spirit and alcoholic liquids, as wine. Its action is antipyretic, sedative, and antiseptic, and it is given for fever, rheumatism, small-pox, typhoid, and epilepsy.

An ointment, 20 grains to 1 ounce, is recommended for obstinate irritable ulcers,—soothing pain and subduing inflammation; with Ung. Hydrarg. it is useful in psoriasis, and is a valuable adjunct to other remedies in the treatment of skin diseases.—*L.*, Apr. 6, '89. Small, frequently repeated doses recommended for high temperature in typhoid and phthisis;  $\frac{1}{3}$  to  $1\frac{1}{2}$  grains hourly, and never more than 20 grains during 24 hours—3 grains considered a dangerous dose in such cases.—*B. M. J. (Supplement)*, Nov. 22, '90. Exhibits many disagreeable secondary effects.—*H.*, July, '90. Several cases of poisoning have occurred from its use.—*Ph. J.*, June 28, '90.

*Dose*—1 to 3 grains. (0.065 to 0.2 gm.) 5 grains may be dissolved in 20 to 40 minims Sp. Aeth. Nit. and 20 minims Sp. Ammoni Arom.—*M. R.*, Aug. '90.

**Phenatol and Pyretine** are mixtures of Antifebrin with Sodium Salts, with additions of Caffeine.

**Monocromacetanilide ; Antiseptin ; Monobromphenylacetamide.** A bromine substitution compound of acetanilide ; contains about 37 per cent. of Bromine, crystallizes in needles or prisms, without taste or smell ; soluble in alcohol.

Recommended for facial neuralgia. The remedy is about *four times as powerful as antipyrin*. *Dose*—3 to 15 grains (0.2 to 1 gm.)

Has been used with good results in the form of suppositories for hemorrhoids,  $7\frac{1}{2}$  grains each.

**Salifebrin.** See page 264.

**Antikamnia.** contains above 70 % of Acetanilide, with about 10 per cent. Caffeine and Bicarbonate of Sodium.

**Antinervin.**—A mixture of 1 part Acetanilide, with Bromide of Ammonium and Salicylic Acid.

**Anilipyrin.** A product obtained by heating 1 part of acetanilid with 2 parts of antipyrin. More soluble than either of the drugs alone. It is slightly toxic. Used for influenza, headache, and neuralgia. *Dose* 15 to 30 grains. (1 or 2 gm.) daily.

## ANTINONNIN.

A mixture of Ortho-dinitroceresokalium with Soap and Glycerine, introduced by Friedr. Bayer & Co., of Elberfeld, under the name of Antinonnin. It occurs as a yellow paste, soluble in water up to 5 per cent., forming a deep yellow liquid having a feeble soapy colour.

Recommended as an antiparasite, preserving wood from dry rot and from fungi of every kind ; also as an insecticide, destroying all kinds of insects on beasts and men, and as a remedy in skin diseases caused by animal parasites.

**ANTINOSIN.**—See Nosophen.

## **ANTIPYONIN.**

A Polyborate of Sodium, recommended as a remedy in inflammation of the cornea and conjunctiva; apparently identical with Sodium tetraborate.

It is a fine, white powder, of a greasy feel, freely soluble in water, neither caustic or poisonous.

**ANTIPYRIN**—See Phenazonum page 228.

## **ANTIPHTHISIN.**

This is a derivative of tuberculin resembling Kleb's tuberculocidin, but differing from it in being made directly from the ten times concentrated culture fluid of tubercle bacilli. The toxic principles found in tuberculin, are supposed to be thus excluded from antiphthisin, and a larger dose of the latter can be administered without the injurious toxic effects produced when large doses of tuberculin are employed.—*Ph. J.*, Oct. 12, '95.

## **ANTISPASMIN.**

A white powder readily soluble in water, contains about 50 per cent. Narceine. Hypnotic and sedative in painful affections.

*Dose*— $\frac{1}{2}$  to  $1\frac{1}{2}$  grains. (.001 to 1 gm.)

## **ANTITETRAIZIN.**

A preparation of Quinine introduced by Zambelletti for the relief of neuralgic pains, influenza, etc. *Dose*—3 to 6 grains. (0.2 to 0.4 gm.)

## **ANTITOXINS.**

These are obtained by treating an animal with subcutaneous or intravenous injections of increasing doses of (1) bacterial

toxins; (2) bacterial cultures, living or killed; (3) a combination of 1 and 2, then bleeding the animal, allowing the blood to coagulate, drawing off the serum, and bottling this in a fluid state or after drying *in vacuo*, all these operations being carried out under the strictest aseptic precautions. In the fluid serum a small quantity of an antiseptic is usually added, and each bottle or phial generally contains a single dose only. Each gramme of the dried serum (= about 10 cc. of fluid serum) is dissolved when required in 5 to 10 cc. of cold distilled water previously sterilized. The dried products are preferable in hot climates.

The dose corresponds usually to 5 to 20 cc. of the fluid serum, according to the activity, which is estimated by ascertaining the amount of serum required to neutralize a given amount of toxin. The dose depends on the gravity of the disease and not on the age of the patient.

The Antitoxins are administered by subcutaneous injection in the abdomen, or between the scapulæ, the skin having been previously disinfected by an antiseptic lotion, and the syringe by boiling for five minutes. Early treatment is of the utmost importance. The Antitoxins may be used as prophylactics, but the immunity produced does not last longer than three weeks.—“Hewlett” in *Squire's Companion*.

The Antitoxins usually obtainable in India in the DRY form are—DIPHTHERIC. TETANIC. STREPTOCOCCIC. TYPHOID. In the LIQUID form. ANTIVENEMOUS.

## ANTITHERMIN.

**Phenylhydrazin-Levulinic Acid.**—A coal-tar derivative, allied to Antipyrin. It is a compound of Phenylhydrazin with Acetopropionic Acid (Levulinic Acid), and is prepared by direct combination of these two substances. In colourless crystals insoluble in water, and with difficulty in alcohol. Being apt to cause stomach pains, it is not much used.

*Dose*—3 grains (0.52 gm.) in pill.

## APIUM.

**Parsley.**—The leaves, root, or fruit of *Petroselinum sativum*,

Hoff. (*Apium Petrocelinum*, Linn.) Aperient and diuretic, and has been found useful in neuralgia and ague, its principal use being for amenorrhœa and dysmenorrhœa.

**Extractum Apii Radicis Liquidum.**—Miscible with water. *Dose*—15 to 60 minims. (0·9 to 4 cc.)

**Extractum Apii Fructus Liquidum.**—Not miscible with water. *Dose*—15 to 60 minims (0·9 to 4 cc.)

**Apiol.**—A green oily liquid obtained from the fruit and containing its active properties. Soluble in alcohol and ether. It is given for primary amenorrhœa and dysmenorrhœa in the form of **Capsules** (5 minims) or **Perles** (3 minims), one being given night and morning for 4 or 5 days during the epoch. In small doses Apiol is diuretic and stimulant to the circulation. The name *Apiol* is also given to a crystalline stearoptene.

*Dose*—3 to 6 minims (0·18 to 0·35 cc.)

## APOCYNUM, U.S.P.

**American Indian Hemp; Canadian Hemp.**—The root of *Apocynum Cannabinum*. A powerful emetic, cathartic, expectorant, and diuretic. It produces nausea, diminishes the frequency of the pulse, and appears to induce drowsiness. It is useful in Bright's disease and dropsy, and very valuable as a hydragogue cathartic, and for removing pleuritic effusion. Its action on the heart resembles *Strophanthus* rather than *Digitalin*.—*T. G.*, Sept. '89. Contains a resin *Apocynin* and a glucoside *Apocynin*.

*Dose of Root*—1 to 20 grains (0·055 to 1·3 gm.)

**Tinctura Apocyni.**—1 in 10. *Dose*—5 to 60 minims (0·3 to 3·5 cc.)

**Extractum Apocyni Liquidum.**—Not miscible with water. *Dose*—5 to 20 minims (0·3 to 1·2 cc.) as an emetic 15 to 60 minims (0·9 to 3·5 cc.)

**Apocynin.**—An electric extractive. Must not be confounded with the resin mentioned above. *Dose*— $\frac{1}{2}$  to 1 grain (0·032 to 0·065 gm.)

**APOMORPHINÆ HYDROCHLORIDUM, B. P.**

**Hydrochloride of Apomorphine;**  $C_{17}H_{17}NO_2 \cdot HCl$ .—The Hydrochloride of an alkaloid prepared from Morphine or Codeine by heating with Hydrochloric Acid in sealed tubes. In greyish white crystals, soluble 1 in 70 of water, 1 in 50 of alcohol, insoluble in ether and chloroform. The aqueous solution rapidly becomes green by exposure to the air, owing to traces of ammonia, but loses very little of its efficacy thereby.

A safe, certain, and quick emetic, small doses being expectorant. It causes free vomiting followed by sleep, and no subsequent nausea, and is useful in such forms of poisoning as carbolic acid, etc., also alcoholic intoxication and sunstroke. As an expectorant it is useful in bronchial asthma, and given with an equal quantity of Morphine every 2 or 4 hours it lessens the cough and increases the fluidity of the sputa. It relieves the spasm of hiccup, chorea and epilepsy.

On the eye its solution acts similarly to Cocaine, but its action is followed by nausea.—*T. G.*, Aug. '85.

*Dose*— $\frac{1}{32}$  to  $\frac{1}{16}$  grain (0.002 to 0.004 gm.) as an expectorant;  $\frac{1}{12}$  to  $\frac{1}{4}$  grain (0.0054 to 0.016 gm.) as an emetic by the mouth;  $\frac{1}{25}$  to  $\frac{1}{8}$  grain (0.0026 to 0.01 gm.), hypodermically.

**Injectio Apomorphinæ Hypodermica, B. P.**—1 in 100. *Dose*—5 to 10 minims (0.30 to 0.6 cc.) as an emetic. Becomes coloured by keeping (see above)

(*In the 1885 B. P. strength was 2 grains in 100 minims.*)

**Mistura Apomorphinæ et Terebeni, G. H.**— $\frac{1}{10}$  grain in 1 ounce. *Dose*—1 ounce (30 cc.)

**Hypodermic Tablets.**— $\frac{1}{15}$  to  $\frac{1}{10}$  grain each.

**Syrupus Apomorphinæ Hydrochloridi, B. P. C.**— $\frac{1}{4}$  grain in 1 ounce.

*Dose*— $\frac{1}{2}$  to 1 fluid drachm (1.8 to 3.5 cc.)

**APOCODEINE.**

From Codeia. Amorphous and acts as an emetic. Soluble in water. The *Hydrochloride* of this alkaloid is used as an expectorant Hypodermically. *Dose*— $\frac{1}{10}$  grain, gradually increased to 1 grain (0.0065 to 0.065 gm.)

## APOLYSIN.

**Monophenetidin Citrate.**—A crystalline yellowish white powder of peculiar odour and taste, less acid than citric acid. Soluble in cold water (1 in 80) alcohol and glycerine.

Antipyretic, analgesic ; useful in neuralgia.

*Dose*—From 8 to 30 grains (0·52 to 2 gm.)

## ARACHIS HYPOGÆA, P. I.

**Ground nut or earth nut** (Leguminosæ). The oil of the seeds (oleum arachis) is official in the P. I. It is obtained by expression, the nuts yielding 40 to 50 per cent. Limpid, clear, light yellow in colour, almost odourless, and affords a cheap and excellent substitute for olive oil in Pharmaceutical and other purposes.

## ARAROA, B. P.

**Crude Chrysarobin ; Goa Powder.**—A powdery deposit found in the wood of *Andira araroba* (Leguminosæ), a tree of Brazil. A rough powder of a light yellow colour, but usually darkened by exposure to light and moisture to a dull-ochrey, pale-brown or even umber-brown or dark purple colour. Taste bitter.—*Pg., Ind., i. 503.*

This substance was first brought into notice by Mr. D. S. Kemp in 1864, and named by him *Chrysarobine*.

Araroba is a very valuable remedy in skin diseases, especially psoriasis and ringworm. The usual method is to mix the powder with limejuice or vinegar and apply to the part, but a more convenient form is

**Chrysarobine Solution.**—A solution of Araroba in a hydrocarbon. This dries rapidly and is easily applied.

**Chrysarobine Pomade.**—An agreeable form of application for delicate skins.

**Chrysarobinum, B. P., Chrysarobin** (purified). *This is now clearly defined by the B. P. as the purified substance extracted from Araroba (Goa Powder) by chloroform and containing Chrysophanic acid.* Chrysarobin contains a varying proportion of chrysophanic acid. Obtained from Araroba by extraction with hot chloroform. Freely soluble in hot benzol, chloroform, turpentine,



&c., but on cooling much crystallizes out. This is often incorrectly termed *Chrysophanic Acid*.

A powerful stimulant and parasiticide in skin diseases, being used for purposes similar to Araroba which it has in many cases displaced. It has been given internally for psoriasis, but owing to its severe purging properties, a sufficient quantity cannot be administered.

*Dose*—As an emetic purge, 8 to 20 grains (0.52 to 1.3 gm.)

**Unguentum Chrysarobini, B. P.**—1 in 25. A very useful ointment for ringworm, *dhobie's itch*, etc. A milder ointment, 5 to 10 grains to the ounce, is recommended in cases of eczema, as a strong ointment often causes feverishness and irritation after several days' use.—*M.* It stains the skin and linen yellow, but the stains may be removed with benzene or a weak solution of potash.

**Unguentum Chrysarobini Compositum (Unna).**—Chrysarobin, 5. Salicylic Acid, 2. Icthyol, 5. Vaseline, 88.

**Pigmentum Chrysarobini.**—1 in 10 of Liquor Gutta-Percha. Also with Collodion, any strength desired. Does not stain the linen.—*B. M. J.* '87, ii. 1139. It has also been recommended to apply a solution in Chloroform to the skin and cover with Liq. Gutta-Percha or Collodion.

**Chrysarobinum Oxidized.**—Introduced by Dr. Unna, obtained by the action of sodium peroxide on chrysarobin suspended in boiling water; according to the author, it is indicated in all cases where chrysarobin is contraindicated on account of its vigorous action; eczema of the face, genitals, etc. It has no effect on dry eczematous efflorescences. *A. M. S. B.* 25-3-'88, and *B. Ph.* May '98.

**Plaster Mulls** contains  $\frac{1}{10}$  and  $\frac{1}{2}$  grain to the square inch.

## ARBUTIN.

$C_{12}H_{16}O_7$ .—A White Crystalline glucoside obtained from Bearberry leaves (*Arctostaphylos Uva-Ursi*) and other plants. It is non-poisonous and freely soluble in hot water and alcohol. Commercial Arbutin appears to be a mixture of Arbutin and Methyl-Arbutin.



A valuable diuretic, useful in chronic cystitis and inflammatory catarrh of the bladder. It acts as an antiseptic, lessening the formation of pus in cases of purulent inflammation of the bladder and kidneys. It splits up in the system into glucose and hydroquinone.

*Dose*—15 to 30 grains. (1 to 2 gm.)

## ARECA.

**Areca Nut; Betel Nut.**—The seed of *Areca Catechu* Linn. (Palmaceæ), of India. Commonly used throughout the East as a constituent of *pan supari*, in conjunction with the leaves of *Piper Betle*\* and *chunam* (unslaked lime). It strengthens the gums, sweetens the breath, and imparts tone to the digestive organs.—*P. I.* It is a common ingredient in various dentifrices.

Its chief use in medicine is as a vermifuge, in which capacity it is employed chiefly for the lower animals.

It contains three alkaloids—*Arecoline* ( $C_9H_{13}NO_2$ ) colourless oily liquid, to the extent of under 0.1 per cent., which is the active constituent and resembles Pelletierine ( $C_8H_{15}NO$ ) both in composition and action, *Arecaïne* ( $C_7H_{11}NO_2H_2O$ ), said to be inert; and a third in very small quantity.—*K.*, Jan. '90; *B. M. J.* (Supplement), Oct. 11, '90.

*Dose*—60 to 90 grains (4 to 6 gm.) 60 grains made into a ball answers for a large dog.

**Extractum Arecæ Liquidum.**—Not miscible with water. An untrustworthy form. *Dose*—2 drachms. (7 cc.)

## ARGENTUM (SILVER).

**Argenti Lactas (Actol).**—Lactate of Silver. A white odourless and almost tasteless powder, soluble in 15 parts of water or albuminous fluids. A powerful antiseptic, but more irritating than silver citrate.

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\* *Piper Betle*, L. (*Chavica Betle*, Miq.) is a creeper extensively grown in India. The leaves known as *pan* yield on distillation a volatile oil, which appears to vary according to the season of collection. The oil from the fresh leaves contains a more volatile constituent, *Chavicol* which is a powerful antiseptic, 5 times stronger than carbolic acid and twice as strong as eugenol. Chavicol is not found in the oil obtained from the dried leaves. Betel Oil (isolated by Kemp in 1885 as a heavy and light volatile oil) also contains *Terpene*, *Betel-Phenol*, and *Sesquiterpene*.—*K.*, Jan. 90; *Ph. J.*, Mar. 16, '90.

**Argenti Citras (Itrol).**—Citrate of silver. A white, colourless and nearly tasteless powder, dissolving very sparingly in water. (1 in 0·3800.) Similar properties to Actol, and generally preferred on account of its being less irritating.

**Argenti Nitras. B. P.**—Lunar caustic. Dose— $\frac{1}{4}$  to  $\frac{1}{2}$  grain (0·016 to 0·032 gm.) in pill with kaolin ointment.

**Argenti Nitras Mitigatus. B. P.**—1 part with two of nitrate of potash.

**Argenti Nitras Induras, B. P.**—Toughened caustic, with 5 per cent. of nitrate of potash.

**Argenti Sulphocarbolas.**—Silver earbolate. Produced by double decomposition between silver carbonate and sulphocarbolic acid. White prismatic needles, contains 28·29 % of silver, sensitive to light. An antiseptic, used similarly to Argonin and Itrol.

**Argentamine—Ethylene-diamine Silver Phosphate.**—A solution of Phosphate of Silver with an equal quantity of ethylen-diamine ( $C_2H_4NH_2$ ) in a hundred parts of water. Clinically it is said to act more energetically than a Nitrate of Silver solution of the same strength, destroying microbes of a pathogenic character better, and also penetrating more deeply into the tissues. Valuable in the form of injections for gonorrhœa.

**Argentol.**—A compound of silver with oxychinolin, obtained from chinosol. A non-irritant non-poisonous powder, difficult to dissolve, but easily distributed. A substitute for Iodoform, and applied as powder, ointment 1 in 50 or 100, and in emulsions or injections for gonorrhœa 1 in 300 to 1,000.

**Argonin—Silver Casein.**—Another organic combination of silver prepared with casein, contains only one quarter the amount of silver the nitrate does, soluble in water, the solution being opalescent and yellowish. Said to be far less irritating than argentamine. Solution 1 to 10 per cent. for gonorrhœa.

**Protargol.**—Silver combined with certain proteins. A bright yellow powder, soluble in water. Contains 8·3 per cent. of silver. Used in gonorrhœa and in eye disease as a bactericide.

## ARISTOL.

**Di-thymol Di-iodide.**—( $C_6H_2CH_3OI$ ,  $C_3H_7$ )<sub>2</sub>.—Prepared by treating an alkaline solution of Thymol with a solution of Iodine in Potassium Iodide. A light, reddish brown powder, containing 45·8 per cent. of Iodine, tasteless and quite odourless when fresh, but soon developing a very faint iodine flavour. Insoluble in water, slightly soluble in alcohol, freely in ether and fixed oils. It is very liable to decomposition on exposure to light and heat, and on this account should be kept in dark bottles, and heat avoided when dissolving it in oil, vaseline, etc. It is also incompatible with carbonates, caustic, alkalies, ammonia, etc.

A valuable substitute for Iodoform, its freedom from odour being greatly in its favour. It is not absorbed by the system, and is consequently non-poisonous. Specially recommended for lupus, psoriasis, ringworm, eczema, and ulcers of various kinds. Its lightness renders it particularly suitable as a dusting powder. It has also been found useful for piles, as well as for burns and scalds.

**Collodium Aristol.**—10 per cent.

**Unguentum Aristol.**—5 and 10 per cent. in Lanolin or Vaseline.

**Oleum Aristol.**—10 per cent.

**Liquor Aristol Æthereus.**—10 per cent. solution in Ether.

May also be used in the form of suppositories, bougies, gauze, and wool.

Cases of varicose ulcer with eczema and lupus vulgaris of the face cured with 10 per cent. ointment; no iodine detected in the urine, while Iodoform produced toxic symptoms.—*M. R.*, Sept. '90.

**Carvarcrol Iodide** and **Europfen.**—These are Iodine compounds of Carvacrol and Orthocresol respectively, and find similar employment to Aristol.

**Iodphenin.**—A combination of Iodine and Phenacetin also used as a substitute for Iodoform. Contains 50 per cent. of Iodine.

**Dermotal.**—See page 69.

## ARISTOLOCHIA INDICA.

(*Arnstotochiacæ*) The root of this twining shrub, which is very

bitter, is held in much esteem as tonic, stimulant and emmenagogue. Has been used as an antidote to snake bite, being used both externally and internally.

## ARSENIIUM.

The following are the salts most generally in use :—

**Acidum Arseniosum. B.P.**—(Arsenious Acid B.P. 1835); White Arsenic; Arsenious Anhydride.  $As_2O_3$ .—Obtained by roasting Arsenical ores. A heavy white powder.—*Dose*  $\frac{1}{60}$  to  $\frac{1}{15}$  grain (0·001 to 0·0043 gm.)

**Liquor Arsenicalis. B. P.**—Fowler's Solution; Liquor Potassæ Arsenitis.—1 per cent. *Dose*—2 to 8 minims (0·12 to 0·48 cc.)

**Liquor Ammonii Arsenitis**—Same as last, with Ammonia in place of Potash.

**Liquor Arsenici Bromatus**, Clemens' solution of Arsenite of Bromine.—1 per cent. A colourless solution, recommended for epilepsy and diabetes. May be continued for months without the usual effects of an arsenical course.—*Dose* 1 to 5 minims (0·06 to 0·03 cc.)

**Liquor Arsenici Hydrochloricus. B. P.**—1 per cent. *Dose*—2 to 8 minims (0·12 to 0·48 cc.)

**Pilulæ Ferri Arsenicalis** (Gelatine coated).— $\frac{1}{80}$  grain Arsenic and 3 grains Dried Sulphate of Iron each. The combination with Iron increases the tonic effect.

Several mineral waters contain Arsenious Acid; *La Bourboule* contains  $\frac{1}{15}$  grain per pint, *Lewico*  $\frac{1}{20}$  to  $\frac{1}{12}$  grain per pint, *Guber*  $\frac{1}{5}$  grain per pint, with Iron.

**Arsenii Iodidum, B.P.**  $As I_3$ .—Orange coloured crystals, which gradually decompose on exposure to the air.

*Dose*— $\frac{1}{20}$  to  $\frac{1}{5}$  grain. (0·0032 to 0·013 gm.) in pill.

**Liquor Arsenii et Hydrargyri Iodidi, B.P.**  
**DONOVAN'S SOLUTION.**—Contains Arsenious Iodide, and Mercuric Iodide, of each 1 per cent. *Dose*—5 to 20 minims (0·3 to 1·2 cc. diluted. Incompatible with acids, morphine, and mercuric chloride

**Cupri Arsenis.**—Copper arsenite. Pure Scheele's green. A pale green amorphous powder recommended for various intestinal affections—cholera, diarrhœa dysentery, and typhoid. *Dose*— $\frac{1}{100}$  to  $\frac{1}{25}$  grain (0·00065 to 0·0026 gm.).

**Arsenates**—See Index.

## ASAPROL.

**Abrastol.**— $(C_{10}H_7SO_4)_2 Ca + 3H_2O$  (*b*-naphthol-*a*-monosulphonate of calcium). A white powder with a bitterish sweet taste, insoluble in ether, but soluble in about two-thirds its weight of cold water and in two parts of alcohol. Ferric chloride gives a characteristic blue colour even in dilute solutions. Its antiseptic equivalent is more or less that of salicylate of sodium. It has been found serviceable as an analgesic in various neuralgic conditions such as dental and intercostal neuralgia.

*Dose*—10 to 30 grains (0·65 to 2 gm.).

## ASCLEPEDIN.

A resinoid prepared from the root of *asclepias tuberosa* (Pleurisy Root) has obtained a reputation in diseases of the respiratory organs, especially pleurisy, pneumonia and catarrhal affections. A **tincture** from the root is prepared, strength 1 in 10, *Dose* of which is 5 to 40 minims, but the properties are believed to be contained in the resinoid asclepedin.

## ASPARAGIN.

**Althein.**—Transparent prisms, soluble in cold water 1 in 50 and in acid and alkaline solutions. Insoluble in alcohol and ether. Obtained from Asparagus (*Asparagus Officinalis*) and marsh-mallow, liquorice, and belladonna roots. Recommended as a diuretic. *Dose*—1 to 2 grains (0·065 to 0·13 gm.).

## ATROPINA, B. P.

**Atropine ; Daturine,**  $C_{17}H_{23}NO_3$ .—An alkaloid found with Hyoscyamine in *Atropa Belladonna* and *Datura Stramonium*

In white needles, very slightly soluble in water, freely soluble in alcohol, chloroform, glycerine, and oleic acid, and 1 in 36 of ether.  
*Dose*— $\frac{1}{2000}$  to  $\frac{1}{1000}$  gr. (0.00032 to 0.00065 gm.).

Atropine is isomeric with Hyoscyamine, into which it may be converted, the form known as "light Atropine" being identical with Hyoscyamine. Atropine melts at 114° C., and is optically inactive; Hyoscyamine melts at 109° C., and is laevogyrate; consequently these characters must be taken to describe the respective alkaloids, rather than botanical source. (See also **Hyoscyamine**, page 172.) Atropine is decomposed by baryta water or hydrochloric acid into Tropic Acid and Tropicine; the latter combines with mandelic and other acids to form salts. These salts, acted upon by hydrochloric acid, produce a series of bodies known as *Tropines*, one of such bodies being **Oxytoluyl-tropine** or **Homatropine**, which, like Atropine, forms salts with acids. (See page 59.)

Atropine and its salts applied to the eye dilate the pupil and paralyse the accommodation, and are therefore used for ophthalmic purposes. They are antagonistic to pilocarpine, opium, calabar bean, muscarine, aconite, bromal, and prussic acid. They have also the property of checking night-sweats, uterine discharges, milk and saliva.—*Ring*. They are used internally, hypodermically, and externally.

*Antidotes*.—Same as for Belladonna.

**Linimentum Atropinæ**.—1 in 100. For lumbago and rheumatism.

**Oleatum Atropinæ**.—See page 214.

**Unguentum Atropinæ**. B. P.—1 in 50.

**Atropinæ Sulphas**, B. P.—In crystals or powder, freely soluble in water, alcohol, and chloroform. *Dose*— $\frac{1}{2000}$  to  $\frac{1}{1000}$  grain (0.00032 to 0.00065 gm.); may be increased to  $\frac{1}{2}$  or  $\frac{1}{3}$  grain in extreme cases.

**Injectio Atropinæ Hypodermica**.—4 grains (Sulphate) to 1 ounce. *Dose*—1 to 2 minims (0.06 to 0.12 cc.). For opium-poisoning, also for checking hæmoptysis.

**Injectio Morphinæ et Atropinæ Hypodermica**.—3 minims contain  $\frac{1}{2}$  grain Acetate of Morphine and  $\frac{1}{20}$  grain



Sulphate of Atropine; or may be used half the strength. The Atropine, although in some respects antagonistic to Morphine, yet in small quantity increases the sedative action and counteracts the effects on the head and digestive organs.—*M. Dose*—1 to 3 minims (0.06 to 0.18 cc.)

**Hypodermic Tablets** contain  $\frac{1}{160}$ ,  $\frac{1}{80}$ , and  $\frac{1}{40}$  grain alone, or combined with Morphine Sulphate.

**Lamellæ Atropinæ, B. P.**—Gelatin discs, containing each  $\frac{1}{8000}$  grain of Sulphate of Atropine.

**Liquor Atropinæ Sulphatis, B. P.**—1 per cent. *Dose*  $\frac{1}{2}$  to 1 minim (0.03 to 0.06 cc.). *Salicylic Acid replaces Camphor as a preservative.*

**Pilulæ Atropinæ** (Gelatin-coated.)— $\frac{1}{80}$  grain (Sulphate) each. One at bedtime prevents night sweating. They have a tendency to cause dryness of the throat.

**Pilulæ Atropinæ, Arsenici et Quininæ.**—Quinine sulphate 18 grains, solution of arsenic 12 minims, solution atropine sulphate 1 minim, extract gentian 20 grains—make into 12 pills. For catarrh, if taken in early stage, one every 3 or 4 hours, nip it in the bud.

**Vaselinum Atropinæ** 1 in 120 (the pure alkaloid), dissolved by heat.

**Atropinæ Iodate.**—Colourless needles, soluble in water and alcohol. Solutions remain free from germs for a long time, so that the addition of an antiseptic is unnecessary.

**Atropinæ Salicylas.**—Soluble 1 in 20 of water. Said to keep better in solution than the sulphate.

**Liquor Atropinæ Salicylas (C.C.H.)**— $\frac{1}{2}$  grain atropine,  $\frac{1}{4}$  grain Salicylic acid in 1 oz. water.

**Atropinæ Valerianas** is also used.

**Homatropine, Oxytoluyltropene.**—Homatropine and all its salts act as quick local mydriatics, being more rapid than Atropine, while their effects pass away sooner. They also check night-sweats, and are an immediate and certain antidote to pilocarpine. Homatropine is nearly insoluble in water, but is soluble in oils. *Dose*— $\frac{1}{160}$  to  $\frac{1}{80}$  grain (0.0005 to 0.0032 gm.)

**Oleum Homatropinæ.**—2 per cent. in Castor Oil; also with 2 per cent. **Cocaine.** For dropping into the eye; has the advantage of not being washed out by the tears.

The addition of Cocaine intensifies the action.

**Homatropinæ Hydrodromidum. B. P.**—In colourless crystals, freely soluble in water. *Dose*— $\frac{1}{120}$  to  $\frac{1}{20}$  grain (0.0005 to 0.0032 gm.).

**Homatropinæ Hydrochloride** and **Homatropinæ Salicylas** have the same form, properties, and dose as the Hydrobromide.

**Guttæ Homatropinæ.**—4 grains Hydrobromide to 1 ounce.

**Injectio Homatropinæ Hypodermica.**—1 in 120  
*Dose*—1 to 6 minims (0.06 to 0.35 cc.).

**Lamella Homatropine B.P.** Contain  $\frac{1}{100}$  grains (0.00065 gm.) of Homatropine Hydrobromide.

**Mydrine.**—See page 209.

**Euphthalmine.**—See page 134.

**Hypodermic Tables** contain  $\frac{1}{240}$  grain each.

## AURUM (GOLD).

**Auri et Sodii Chloridum, U.S.P.**—A mixture of equal parts of Chloride of Gold and Chloride of Sodium, containing about 32 per cent. of pure Gold, a smaller percentage than the Codex preparation, which is a double salt of Gold and Sodium,  $\text{Au Cl}_3 \text{ Na Cl} \cdot 2\text{H}_2\text{O} = 50$  per cent. Gold. An orange-yellow deliquescent powder freely soluble in water. It is given for syphilis, or used externally as a caustic. *Dose*— $\frac{1}{30}$  to  $\frac{1}{12}$  (0.0022 to 0.0054 gm.). increased to  $\frac{1}{2}$  grain (0.032 gm.). Its solutions should be protected from white light.

**Auri Bromidum,  $\text{AuBr}_3$** —A dark brown powder soluble, in water and ether. Recommended for epilepsy and migraine, as being tolerated better than other bromides. *Dose*— $\frac{1}{30}$  to  $\frac{1}{10}$  (0.001 to 0.0065 gm.) increased to  $\frac{1}{6}$  grain, (0.013 gm.). well diluted or in pills, 4 times a day. It causes no bromism, except anæsthesia of the mouth.



**Auri et Potassii Bromidum.**—More soluble than the bromide of gold. *Dose*— $\frac{1}{8}$  to  $\frac{2}{3}$  grain (0·01 to 0·043 gm.)

**Liquor Auri et Arsenii Bromidi.**—Bromide of gold  $1\frac{1}{2}$  grains with oxybromide of arsenum, 3 grains(= *Clemens' solution* : 84 minims—see p. 56) to 1oz. of water. *Dose*—5 to 10 minims (0·3 to 0·6 cc.)

**Liquor Auri et Hydrargri Bromidi.**—Bromide of gold and bromide of mercury  $1\frac{1}{2}$  grains each to 1 oz. of water *Dose*—5 to 10 minims (0·3 to 0·6 cc.)

**Auri Iodidum, Au I<sub>3</sub>.**—A very unstable compound. A preparation of this has been introduced as a proprietary remedy for tuberculosis, being given hypodermically in doses of  $\frac{1}{80}$  to  $\frac{1}{12}$  grain (0·001 to 0·0054 cc.)

## AZADIRACHTA, P. I.

**Nim or Margosa Bark.**—The bark of *Melia Azadirachta*, Linn. (Meliaceæ), the Nim Tree of India. Used as a tonic and antiperiodic. The leaves are also official, while the root, flowers, fruit, gum, and oil of the seeds are all used medicinally.—*Pg. I, i. 322.*

**Decoctum Azadirachtæ.**—*Dose*—As an antiperiodic,  $1\frac{1}{2}$  to 3 ounces every second hour previous to an expected paroxysm. As a tonic, 1 to 2 ounces, twice or thrice a day.

**Tinctura Azadirachtæ.**—1 to 8. *Dose*— $\frac{1}{2}$  to 2 drachms as a tonic.

A yellow fixed oil, of which the seeds contain about 10 per cent. is given in leprosy and applied for rheumatism. Its efficacy in the latter case is probably due to the presence of combined sulphur.

Dr. Warden states that the oil consists of the fixed fatty acids, stearic, oleic, and a small amount of lauric with butyric and a trace of valeric acid, as the volatile fatty principles.

## BALSAMUM GURJUNÆ, P. I.

**Gurjun Balsam; Balsamum Dipterocarpi; Balsam Junce; Wood Oil.**—An oleo-resin obtained from the trunk of *Dipterocarpus turbinatus*, *D. incanus*, *D. alatus*, and

other species of Indian trees. A transparent, dark-brown, oily liquid, lighter than water, having an odour and taste similar to *Copaiba*, for which it is frequently used as an adulterant.

It is used like *Copaiba* for gonorrhœa, and also externally and internally for leprosy, leucoderma, and similar diseases. It is also used in India as a varnish to protect wood from the attacks of insects.—*Pg. Ind.*

As an emulsion, or mixed with Extract of Malt, 1 to 4, it is an excellent expectorant, equal to *Copaiba*, without producing any rash.—*L.*, May 3, '90.

It is useful in Psoriasis and kindred skin affections mixed with equal part of lime-water, and applied freely. The pale oil is also given internally; the addition of *Chaulmogra* oil enhances the effect.—*Dey.*

*Dose*— $\frac{1}{2}$  to 2 drachms (1·8 to 7 cc.), in emulsion, or capsules.

## BAPTISIA.

**Wild Indigo.**—The root of *Baptisia tinctoria*. A mild laxative in small doses, a powerful emetic and cathartic in large; has also antiseptic properties. It is recommended in scarlatina, typhus, gangrene, and threatened mortification.

**Extractum Baptisæ Liquidum.** *Dose*—3 to 10 minims (0·18 to 0·6 cc.)

**Baptisin.**—The powdered purified extractive. *Dose*—1 to 5 grains (0·065 to 0·32 gm.)

## BELLADONNA, B. P.

**Deadly Nightshade.**—The leaves and root of *Atropa Belladonna*. Mydriatic and narcotic: used externally, relieves rheumatism, neuralgia, and pain in general. In combination with Alocs or Sulphate of Iron it is useful in habitual constipation. It checks, or even suppresses, the secretion of the glands, specially the mammary, sudoriparous and salivary glands, causes dryness of the mouth and throat, and in large doses produces delirium, rash on the skin, flushed face, and weakening of the muscular power.—*Ring.* Contains *Atropine* and *Hyoscyamine*.

Case of poisoning from the application of Belladonna Plaster to the breasts.—*M. R.*, Oct. '90.

*Antidotes*.—Emetics : Chloral ; Pilocarpine ; Physostigma.

*N. B.*—All the B. P. preparations, including solid and liquid extracts, plaster, tincture, suppository and ointment are standardized, except the old green extract. The Tincture now contains nearly twice as much alkaloids.

**Atropina**.—See page 57.

**Chloroform Belladonnæ, B. P. C.**—1 (Root) in 1½. Mixed with Olive Oil, 1 to 3, is useful for painful rheumatic affections.—*M.*

**Collodium Belladonnæ, B. P. C.**—*Emplastrum Belladonnæ Fluidum*.—Contains Belladonna, Collodion, and Camphor, and is recommended for acute affections of the breasts.

**Emplastrum Belladonnæ, B. P.**—Made from the Alcoholic Extract of the Root, 1 in 6.

**Porous Plasters and Plaster Mulls** (30 per cent. of Extract) are also prepared.

**Extractum Belladonnæ Viride, B. P.**—A green extract, prepared from the fresh juice of the leaves and branches. *Dose*—¼ to ½ grain (0.016 to 0.065 gm.) or up to 2 grains, if necessary.

**Extractum Belladonnæ Alcoholicum, B. P.**—An extract containing 1 per cent. of the alkaloid of the root (made from the liquid extract). *Dose*—¼ to 1 grain (0.016 to 0.065 gm.)

**Extractum Belladonnæ Folii Alcoholicum, B. P. C.**—Solid Extract made with Rectified Spirit.

**Extractum Belladonnæ Liquidum, B. P.**—This is a liquid extract of Belladonna root standardized to contain ¾ grain of alkaloids in 110 minims, or .75 per cent. It is prepared by re-percolation, and is not intended for internal administration, therefore no dose is given. When properly diluted, it forms the active portion of the Liniment, Plaster, Tincture, Suppository, solid extract, and ointment.

**Glycerinum Belladonnæ, B. P. C.**—1 in 2. Applied to boils, etc., reduces pain and inflammation. Also applied on lint to the breasts to suppress the milk.

**Linimentum Belladonnæ, B. P.**—Made from Liquid Extract. A sedative for neuralgia and rheumatism.

**Linimentum Belladonnæ Compositum.**—1 part Chlorof Belladon. to 7 Linim. Belladon. Applied on impermeable piline for lumbago.

**Linimentum Belladonnæ Æthereum** ("Ethereal Tincture of Belladonna").—1 (Root) in  $1\frac{1}{2}$ . More readily absorbed than Emplast. Belladon., and offers no obstacle to the examination of the heart.—*M. R.*, Sept. '90 (ex *Lancet*). For remarks on this and similar ethereal preparations, see **Capsicum**.

**Pilulæ Aloin, Belladonnæ et Strychninæ, Tonic Laxative Granules.**—Aloin  $\frac{1}{6}$  gr., Extract of Belladonna  $\frac{1}{2}$  gr., Strychnine  $\frac{1}{16}$  gr. (Gelatine-coated). For habitual constipation. *Dose*—One, morning, noon, and night. Where a painless peristaltic action is desired, one may be taken every night or second night at bedtime.

**Pilulæ Ipecacuanhæ, Belladonnæ. et Nucis Vomica, Belladonna Cough Granules.**—Ipecacuanha  $\frac{1}{3}$  gr., Extract of Nux Vomica  $\frac{1}{3}$  gr., Extract of Belladonna  $\frac{1}{2}$  grain (Gelatine-coated).—Very efficacious in the form of cough so prevalent in India. *Dose*—One, 3 or 4 times a day.

**Pilulæ Podophylli, Belladonnæ et Strychninæ.**—See page 247.

**Succus Belladonnæ. B. P.**—*Dose*—5 to 15 minims (0.3 to 0.9 cc.).

**Suppositoria Belladonnæ, B. P.**— $\frac{1}{2}$  grain Alcoholic Extract in each.

**Tinctura Belladonnæ, B. P.**—*About twice the strength of B. P., 1885, now made from Liquid Extract of the root. Dose*—5 to 15 minims (0.3 to 0.9 cc.).

**Tinctura Belladonna Atherea.**—Prepared with ether 1 in  $1\frac{1}{2}$ , with camphor  $\frac{1}{16}$ .

**Unguentum Belladonnæ, B. P.**—*Now made from Liquid Extract, and is slightly stronger.*

## BENZACETIN.

The name given to acetoamidomethyl salicylate, a compound recommended for the treatment of neuralgia. It occurs in colorless crystals, with difficulty soluble in water. *Dose*.—8 to 15 grains (0·52 to 1 gm.) thrice daily.—*C.—J. D.*, 9th Feb. 1895.

## BENZANILIDE.

**Phenyl-benzamide:**  $C_6H_5CO.NH.C_6H_5$ .—A coal-tar product, prepared by the action of Benzoyl Chloride or Benzoic Acid on Aniline. A white crystalline powder, insoluble in water, soluble 1 in 60 of spirit. An antipyretic, similar to Antifebrin, but free from its objectional subsidiary action. Specially suitable for children.—*Ph. J.*, Dec. 1, '88. *Dose*—3 to 12 grs. (0·2 to 0·8 gm.).

## BENZO IODHYDRINUM.

A crystalline body, said to contain iodine, chlorine, and benzoic acid—soluble in alcohol. A substitute for iodide of potassium, and a remedy for chronic bronchitis and asthma. *Dose*—2 grains (0·13 gm.) with sugar.—*Zimmer*, Dec., 97.

## BENZOL, B.P.

**Bezene.**—*Dose*.—5 to 10 minims (0·30 to 0·6 cc.) should be purified for internal use by treatment with Sulphuric Acid and re-distillation. Sp. Gr. 0·880 to 0·888.

**BENZONAPHTHOL.**—See page 211.

## BENZBETAL.

**Benzoyl-phenyl-amido-acetic Acid.**—A coal-tar product, which has been found valuable in diarrhoea, dysentery, enteritis, and cholera.

A white powder, nearly tasteless, insoluble or nearly so in cold water, more soluble in hot water, freely soluble in spirit. *Dose*.—Not definitely fixed; 6 grammes (93 grains) have been given daily to an adult without bad effects.

## BERBERIS.

**Barberry.**—The root of *Berberis Aquifolium*, an American shrub, also of *B. vulgaris* of Europe, and other species. Contains

a yellow alkaloid, *Berberine*, which is also found in *Hydrastis* and *Calumba* roots, also a colourless alkaloid, *Oxyacanthine*, and two other alkaloids.

Tonic, stomachic, and antiperiodic. *B. Aquifolium* has the property of starting the secretions as a cathartic and diuretic, and may be advantageously combined with *Cascara Sagrada* for the former purpose in habitual constipation.

**Extractum Berberidis Liquidum.**—Not miscible with water. *Dose*— $\frac{1}{2}$  to 2 drachms (1·8 to 7 cc.)

**Extractum Berberidis Aquifolii Liquidum.**—Miscible with water. *Dose*—10 to 30 minims (0·6 to 1·8 cc.).

**Berberina**, *Berberine*.  $C_{20}H_{17}NO$ .—A yellow crystalline alkaloid, insoluble in water. Stimulant, hepatic, antiperiodic, and tonic. *Dose*—2 to 5 grains (0·13 to 0·32 gm.)

**Berberinæ Phosphate, Hydrochloride and Sulphate** are also used. *Dose* of each—2 to 6 grains (0·13 to 0·4 gm.).

**Berberis Cortex, P.I.**, Indian Barberry.—The root-bark of *B. Asiatica*, *B. Aristata*, and *B. Lycium*, of India. Tonic, antiperiodic and diaphoretic. Contains *Berberine*. **A Tincture, Infusion, and Extract** are official. An impure watery extract, sold in the bazaars as **Rusot**, is used as a febrifuge, and as a local application in eye diseases. *Dose*— $\frac{1}{2}$  to 1 drachm (2 to 4 gm.)

**BETOL.**—see page 211.

## BHAWCHEE.

**Bawachi ; Karpō Karishi.**—The seeds of *Psoralea corylifolia* (Leguminosæ), India. Ovate, very small, of a dark brown colour with an aromatic and bitter taste. Yields a colourless essential oil, and a crystalline colouring matter. Used in India as an anthelmintic, in bilious affections, and as a remedy, externally and internally, for leprosy and chronic diseases depending on the state of the blood.

Useful in leucoderma, causing disappearance of white patches, and arresting the appearance of fresh patches.—*Ph. J.*, Sep. 24, '81.

**Oleature of Bhawchee.**—For external application. Represents the drug in its most active form.



**Tincture of Bhawchee.**—For internal administration.  
*Dose*— $\frac{1}{2}$  to 2 drachms (1·8 to 7 cc.)

## BISMUTHUM.

**Bismuthum Purificatum.**—Metallic Bismuth purified by fusion with cyanide of potassium and sulphur, and afterwards with carbonates of potassium and sodium.

**Bismuthi Benzoas.**—Prepared by heating a mixture of Benzoic Acid and hydrated oxide of Bismuth in water. *Dose*—5 to 20 grains. (0·32 to 13 gm.)

**Bismuth Naphthol.** ORPHOL.—Occurs as a brown non-caustic odourless powder, insoluble in water. A less irritating antiseptic than Naphthol to the stomach and intestines. *Dose*—10 to 30 grains (0·65 to 2 gm.)

**Bismuthi Carbonas, B. P.**—Carbonate or Oxycarbonate of Bismuth.  $(\text{Bi}_2\text{O}_2\text{CO}_3)_2\text{H}_2\text{O}$ . A white powder insoluble in water. *Dose*—5 to 20 grains (0·32 to 1·3 gm.)

**Pastils.**—Containing 3 grains (0·2 gm.) also with Morphine Acetate  $\frac{1}{16}$  grain (0·0016 gm.)—See page 147.

**Bismuthi Chrysophanos.** See "*Dermol.*"

**Bismuthi Citras.**— $\text{BiC}_6\text{H}_5\text{O}_7$ —A white powder. *Dose*—2 to 5 grains (0·13 to 0·32 gm.) Insoluble in water.

**Liquor Bismuthi et Ammonii Citratis, B. P.**—5 grains to 1 drachm. *Now made from Bismuth Oxynitras instead of the Citrate.* *Dose*— $\frac{1}{2}$  to 1 drachm (1·8 to 3·5 cc.)

**Bismuthi et Ammonii Citras.**—Small shining scales freely soluble in water. Prepared by evaporating the Liquor. *Dose*—2 to 5 grains (0·13 to 0·32 cc.)

**Bismuthi Iodopyrogallate.**—A fine amorphous yellowish red powder, insoluble in water, permanent in air and light. Recommended as a powerful surgical antiseptic. Not so easily decomposed by water, as the other Bismuth preparations used for this purpose.

**Bismuthi Loretinas.**—A bismuth compound of Loretin. Exercises a drying effect in external application on wounds. Has been used internally only to a small extent for diarrhoea of phthisic patients in the last stage in doses of 8 grains.

**Mistura Bismuthi et Pepsinæ Composita.**—Each fluid drachm contains, in addition to Bismuth, Pepsin, Ammonia, etc., 3 minims Liq. Opii Sed., 2 minims Acid. Hydrocy. dil., 3 minims Tinct. Nuc. Vom. An excellent digestive. *Dose*— $\frac{1}{2}$  to 1 drachm (1·8 to 3·5 cc.).

**Bismuthi Oleas.**—See page 215.

**Bismuthi Oxidum. B. P.**  $\text{Bi}_2\text{O}_3$ —A lemon-yellow powder insoluble in water. *Dose*—5 to 20 grains (0·32 to 1·3 gm.).

**Bismuthi Oxychloridium.**—An impalpable white powder, insoluble in water, recommended by some in preference to the other salts of Bismuth, as being unirritating. An ointment 1 to 15 of Vaseline is useful for speculum use. *Dose*—5 to 20 grains (0·32 of to 1·3 gm.).

**Bismuthi Oxyiodidum.**—Oxyiodide or Subiodide of Bismuth.  $\text{BiOI}$ .—A brownish red amorphous powder, possessing the properties of Iodoform without its unpleasant odour. It is applied as an antiseptic to ulcerous sores, and given internally for ulcer of the stomach. *Dose*—5 to 10 grains (0·32 to 0·65 gm.).

**Bismuthi Oxyiodogallas;**  $\text{C}_6\text{H}_2(\text{OH})_3\text{CO}_2\cdot\text{BiOH}$ .  $\text{AIROL}$ . A fine light greyish green powder, odourless and tasteless and practically unaffected by exposure to sunlight. It is extremely bulky, being four times as light as Iodoform, and twice as light as Dermatol. *Airol*, like Dermatol, is a substitute for Iodoform, but combines the properties of the two bodies, and is used in the form of ointment or dusting powder with anhydrous lard or lanoline.—*C. & D.*, 2nd Feb., 1895.

**Bismuthum Peptonatum.**—A brown powder, recommended as containing 3·5 per cent. of Bismuth in a soluble form. *Dose*—80 grains daily (5 gm.)

**Bismuthi Phenylicum.**—(Carbolate of Bismuth  $(\text{C}_6\text{H}_5\text{O})_2\text{BiOH} + \text{Bi}_2\text{O}_3$ )—A dust dry powder of a violet colour, almost insoluble in water; the preparation usually imparts a blue colour to moist red litmus paper—contains 72·6 per cent. Bismuth, 22 per cent. Phenol.

Used in chronic catarrh of the bowels and diarrhoea. Given in doses of 15 to 45 grains daily (1 to 2·92 gm.).



**Bismuthi Phosphas** (soluble).—Made by heating Bismuth Oxide, Sodium Carbonate, and Phosphoric Acid. It contains about 20 per cent. of Bismuth Oxide, and dissolves readily in 2 or 3 times its weight of water. Used in acute catarrh of the stomach and intestines, in doses of 3 to 8 grains (0·2 to 0·52 gm.) 3 times daily.

**Bismuthi Pyrogallas** (*Helcosol*).—An amorphous tasteless odourless powder, insoluble in water and alcohol, and sparingly soluble in dilute hydrochloric acid. Contains 60 per cent. metallic Bismuth. Recommended in cases where Pyrogallie Acid would be used, especially as a disinfectant in infectious diseases of the bowels. *Dose*—2 to 8 grains (0·13 to 0·52 gm.)

**Bismuthi Salicylas, B. P.** (Bismuth oxysalicylate).—A white or pinkish powder containing 63 per cent. of Bismuthous Oxide, and insoluble in water and spirit. Useful in some forms of diarrhoea and in gastro-enteritic affections, especially of children. *Dose*—5 to 20 grains (0·32 to 1·3 gm.)

**Bismuthi Subgallas** (*Dermatol*).—Similar in colour to Iodoform, but perfectly odourless, insoluble, stable, non-poisonous. Used as a dusting powder alone or with starch, and recommended as a powerful non-irritant antiseptic and desiccant.

**Bismuthi et Cerii Salicylas**.—A double salt, recommended for bowel complaints. *Dose*—5 to 20 grains (0·32 to 1·3 gm.)

**Bismuthi Subnitras, B. P.**—Subnitrate, Oxynitrate, or Magistery of Bismuth; White Bismuth.  $\text{BiONO}_3, \text{H}_2\text{O}$ . A heavy, white, minutely crystalline powder, insoluble in water. Useful in dyspepsia, vomiting, and diarrhoea. It blackens the excretions. Should be prescribed along with Mucilage of Tragacanth or Compound Powder of Tragacanth, as owing to its weight it does not mix readily with water. Should *not* be prescribed with alkaline carbonates, as effervescence ensues. *Dose*—5 to 20 grains (0·32 to 1·3 gm.)

**Bismuthi Sulphis**  $\text{Bi}_2(\text{SO}_3)_3$ .—A white powder soluble in acids only, when sulphurous acid is set free. In the digestive canal the sulphurous acid is set free from the sulphite of Bismuth, and is again converted into sulphuretted hydrogen, by this means becoming antiseptic and antifermentive. It has also an anthelmintic effect. *Dose*—5 to 30 grains. (0·32 to 2 gm.)

**Thioform.**—Basic Isthiosalicylate of Bismuth. A yellowish gray, very fine odourless powder, insoluble in the usual solvents, contains 72 per cent. Oxide of Bismuth.

Recommended as an antiseptic in ophthalmia and dentistry, and in diseases of the ear, nose, and throat.

**Bismuthi Tribromphenol (Xeroform).**—Tribrom-carbolate of Bismuth. A yellow, neutral, insoluble powder, odourless, tasteless and not effecting the mucous membranes or the digestive organs. Contains Tribromphenol 50 per cent. and Bismuth Oxide 49.5 per cent., recommended for cholera. *Dose*—5 to 20 grains (0.32 to 1.3 gm.)

**Glycerinum Bismuthi.**—See page 150

**Lotio Bismuthi.**—10 grains to 1 ounce. For eczema.

**Pulvis Bismuthi Compositus, Ferrier's Snuff.**—Contains 2 grains Hydr. chloride of Morphine in 1 ounce, with Bismuth and Acacia. For coryza.

**Trochisci Bismuthi Composita, B. P.** 2 grs. each. Also with the Bismuth replaced by 1 gr. Sodium Chloride as an Antacid Lozenge.

**Unguentum Bismuthi.**—60 grains to 1 ounce. For herpes, piles, etc.

**Bismuthol.**—Described as "Bismuth-sodium-phosphosalicylate" and recommended as a powerful non-toxic antiseptic, possessing all the advantages of its components with freedom from their shortcomings. It is used as a dusting powder with Talcum (1—4) and in ointment with Petrolatum (1—4) and aqueous solution (1—40)

**Bismal, Methylene Digallate**  $4C_{15}H_{12}O_{10} + 3 Bi(OH)_3$ .—A greyish blue bulky powder, soluble in alkalis. An internal astringent indicated in protracted diarrhoea. *Dose*— $1\frac{1}{2}$  to  $4\frac{1}{2}$  grains (0.1 to 0.3 gm.)

## BOLDO.

The leaves of *Boldea fragrans* (*Peumus Boldus*) from Chili and Bolivia. It has tonic properties, and is useful in dyspepsia, rheumatism and liver affections. It is also used for gonorrhoea

and atony of the bladder. Contains a glucoside *Boldin* and a volatile oil.

**Tinctura Boldo.**—1 in 5. *Dose*—1 to 20 minims. (0.06 to 1.2 cc.)

**Extractum Boldo Liquidum.**—Not miscible with water. *Dose*—1 to 4 minims. (0.06 to 0.21 cc.)

**Boldin or Boldoin.**—The glucoside obtained from the leaves. Has hypnotic properties, and also, it is said, local anæsthetic properties like Cocaine. Its hypnotic powers are said to be greater than those of opium, Indian hemp, chloral, etc. *Dose*—3 grains (0.2 gm.), in capsules.

### BONDUCELLA, P. I.

**Bonduc Seeds.**—The seeds of *Cesalpinia Bonducella* (Leguminosæ), an Indian plant. A bitter tonic and antiperiodic in intermittent fevers as well as in debility. The seeds contain a fixed oil, which is used as an embrocation by some native practitioners.—*Pg. Ind.*, i. 499.

*Dose of Seeds*—10 to 15 grains (0.65 to 1 gm.)

**Pulvis Bonducellæ Compositus**—Composed of Bonduc and Black Pepper. *Dose*—15 to 20 grains (1 to 1.3 gm.).

### BORINE.

A mixture of Benzoin, Wintergreen, Meadowsweet, Golden rod, and Witch Hazel, combined with the steareptines of Wild Thyme, Eucalyptus, Peppermint, and Boracic acid. As a general disinfectant.

### BORSALYL.

An antiseptic comp und, described as being obtained by the action of 25 parts of Boric Acid on 32 parts of Sodium Salicylate in the presence of a small quantity of distilled water, whereby a hard mass forms which is dried and powdered.

### BROMAL HYDRAS.

**Tribromo-ascetic-ortho-Aldehyde.**  $\text{CBr}_3\text{CH}(\text{OH})_2$ .—Colourless crystals, which melt in the hand and are less soluble than Chloral Hydrate. Has been recommended as a hypnotic

It is more active than Chloral Hydrate, but appears to cause pyrosis, vomiting, and diarrhœa. *Dose*—2 to 5 grains (0·13 to 0·32 gm.)

### BROMALIN.

**Bromethylformine, Hexamethylentetramin-bromethylate.** Occurs in colourless flakes, or a white crystalline powder, easily soluble in water, the solution being almost tasteless. A nerve sedative; the sedative effect is essentially weaker than that of Bromide of Potassium, yet it has no disagreeable secondary effects like the latter. *Dose*—10 to 30 grains. (0·65 to 2 gm.)

### BROMOHÆMOLUM.

Contains 27 per cent. Bromine. A compound of Hæmol and Bromine.

**BROMETHYL.**—See page 27.

### BROMOFORMUM.

**Bromoform: Tribromomethane.**  $\text{CHBr}_3$ —A heavy colourless liquid of a sweet taste, soluble in alcohol, but only slightly soluble in water. Has been used with success in whooping cough, complicated with pneumonia.—*K.*, July 1890.

Subcutaneous injections caused narcosis accompanied by a fall of temperature.—*Ibid.* *Dose*— $\frac{1}{2}$  to 2 minims (0·03 to 0·12 cc.) or more.

### BROMOPYRIN.

A bromine derivative of Antipyrin (Monobromoantipyrin). White needle-like crystals, insoluble in water, slightly soluble in hot water, and easily soluble in alcohol or chloroform. This body is a true chemical compound and must not be confounded with the speciality which was put forward under the same name, but which was merely a mixture of antipyrin, caffeine and sodium bromide.

### BRYONIA. U.S.P.

**White Bryony: Vitis Alba.**—The root of *Bryonia alba*, Linn. (Cucurbitaceæ). A hydragogue cathartic, chiefly employed for dropsy. It contains 2 glycosides, *Bryonin* and *Bryonidin*, the latter being the active principle. Bryony has

recently been found to act as an excellent hæmostatic, an infusion of 1 in 10 being best for internal use. It causes a progressive contraction of the capillaries.—*K.*, July '90.

**Tinctura Bryonæ, B.P.C.**—1 in 10. Prepared from fresh roots of *B. alba* and *B. dioica* or red bryony (the latter has no hæmostatic properties). Given in small doses for pleurisy, in large doses for dropsy. *Dose*—1 to 10 minims (0·06 to 0·6 cc.)

### BUTEA FRONDOSA. P.I.

**Bengal Kino Tree** (Leguminosæ). The inspissated juice obtained from the stem by incision constitutes *Bengal Kino* common in the Bazaars. Occurs in the form of irregular shining fragments, more or less mixed with adherent pieces of greyish bark; of an intensely ruby colour and astringent taste, soluble but not freely so in water and alcohol. Its astringency is due to the presence of Tannic and Gallic Acids.

The gum is given in chronic diarrhœa, in doses of 5 to 20 grains (0·32 to 1·3 gm.)

### BUTYL-CHLORAL HYDRAS, B.P.

**Hydrate of Butyl-Chloral; Croton Chloral Hydrate** (wrongly so called). **Trichlor Butyledine Glycol**  $C_4H_5Cl_3O.H_2O$ .—In white crystalline scales, having a pungent odour. Soluble 1 in 50 of water, freely soluble in spirit.

Perhaps the most efficacious remedy in facial neuralgia; very useful in migraine; relieves the lighter attacks experienced by some delicate women after slight fatigue or excitement; of little use in simple toothache.—*Ring.*

*Dose*—5 to 20 grains (0·32 to 1·3 gm.) Best administered in a pill 3 grains (0·2 gm.) with  $\frac{1}{250}$  grain (0·00032 gm.) Gelsemin Hydrochloride. Is given in facial neuralgia.

Liquefies on mixing with Menthol or Antipyrin. Antidote for poisonous dose—Picrotoxin  $\frac{1}{10}$  grain.—*Sq.*

**Syrupus Butyl-Chloral, B.P.C.**—16 grains to 1 ounce. *Dose*—1 to 4 drachms (3·5 to 15 cc.)

### BUTYROMEL.

A mixture of two parts fresh butter and one part of honey. The mixture is advocated as an excellent emulsifier, for use with Cod liver oil.

**BYNE.**—See page 197.

### CACHETS.

These are capsules of wafer paper in which any nauseous powder or extract may be enclosed. The Cachet is to be first moistened with water, when it may be swallowed with the greatest ease. They are very useful for such drugs as Antipyrin or Phenacetin, the large dose of which renders the pill form impracticable.

They are made in three sizes, and medicine may be dispensed "in Cachets" if so desired.

### CÆSALPINIA SAPPAN.

**The Sappan Wood.**—A small thorny tree, cultivated in Central India. The wood was used as a red dye for cotton goods, and is described as a useful astringent, containing much tannic and gallic acid, and is a good substitute for logwood. It contains a principle resembling Hæmatein.—*Dey*.

### CÆSIUM BITARTRATE.

$\text{Cs}_2\text{C}_4\text{H}_4\text{O}_6$  in colourless, prismatic, strongly refractive crystals soluble in water; and

**Cæsium Bromidum.**—Cs Br, a white crystalline powder, readily soluble in water. Both salts have been employed in nervous palpitation of the heart in doses of 3 to 5 grains three times daily in wafers.—*A.M.S.B.*, Mar. 15, '95.

### CACTUS GRANDIFLOROUS.

(Night blooming Cereus.) Liquid Extract 1—1. *Dose*—1 to 10 minims (0.06 to 0.6 cc.). The **Tincture** is prepared from fresh flowers and young stem 1, alcohol 4. *Dose*—2 to 10 minims (0.12 to 0.6 cc.). Useful in some asthenic conditions of the heart, and dropsy.

### CADMIUM SALICYLAS.

Colourless shiny needles of sweetish astringent taste, soluble in Glycerine. Alcohol and Ether, insoluble in Chloroform and Benzine. Contains 29 per cent. Metallic Cadmium. Recommended in cases of purulent ophthalmia, inflammation of the cornea (Keratitis), conjunctivitis; also as an astringent in leucorrhœa, syphilis, etc.

## CAFFEINA, B.P.

**Caffeine: Theine: Guaranine:**  $C_8H_{10}N_4O_2$ .—An alkaloid occurring in—(1) the berries of *Coffea arabica* (coffee), 1 to 1.28 per cent.; (2) the leaves of *Camellia thea* (tea), 2 to 4 per cent.; (3) the dried pulp of *Parullinia sorbilis* (guarana), 5 per cent.; (4) the leaves and twigs of *Ilex paraguayensis* (maté or Paraguay tea); (5) the seeds of *Sterculia acuminata* (kola), 2.13 per cent.; (6) present to a small extent in cocoa.—*Watts' Dict. Chem.* Usually prepared from either of sources 1 and 2, by evaporating aqueous infusions from which astringent and colouring matters have been removed.

Caffeine may be indirectly obtained from guano, caffeine being methyl-theobromine, and theobromine being di-methyl xanthine, while xanthine is a derivative of guanine obtained from guano.

In fine silky needles, slightly soluble in water, more soluble in spirit. May be dissolved by the aid of acids, but the salt thus formed is apt to split up throwing out the Caffeine. Taste bitter. A tonic and restorative to the nervous system, stimulating the heart and raising arterial tension. Useful in cardiac dropsy, and better borne than Digitalis. As a stomachic tonic, it lessens tissue, change and waste. Combined with Paraldehyde is useful as a diuretic in heart diseases.—*C. & D.*, '87, 242. Caffeine also relieves bronchial asthma. *Dose*—1 to 5 grains (0.065 to 0.32 gm.)

**Caffeinæ Ammonio-Citras.**—A crystalline white powder slightly soluble in water. *Dose*—1 to 10 grains (0.065 to 0.65 gm.)

**Caffeinæ Citras, B.P.**—A white powder, prepared by mixing Citric Acid and Caffeine in water and evaporating to dryness. The Citrate as formerly met with was a doubtful combination, the Caffeine could be extracted by Chloroform; the present Citrate is more definitely combined, but even now the action of water liberates Caffeine. *Dose*—2 to 10 grains (0.13 to 0.65 gm.)

**Aerated Caffeine Water** (in Syphons).—1 grain Citrate in each ounce. *Dose*—One wineglassful every hour.



**Caffeine Citras Effervescens, P.B.**—Granular Effervescent Caffeine Citrate, 4 per cent. *Dose*—1 to 2 drachms (3·5 to 7 gm.) Also with the addition of **Bromide of Potassium**, 5 grains to the drachm.

**Caffeine Hydrobromide and Hydrochloride.**—Colourless needles, soluble 1 in 50 of water. *Dose*— $\frac{1}{2}$  to 5 grains (0·032 to 0·32 gm.)

**Granular Effervescent Caffeine Hydrobromide.** 4 per cent. *Dose*—1 to 2 drachms (3·5 to 7 gm.)

**Caffeine Chloral.**—In soluble, colourless, glistening scales, which is claimed to be a remedy for constipation, used hypodermically in 3 to 6 grain doses (0·2 to 0·4 gm.)

**Bromo Caffeine** ( $C_8H_6BrN_4O_2$ ), a substitution product, must not be confounded with the Hydrobromide, or with the proprietary effervescing preparation which is also known as "Bromo-Caffeine."

**Chloro-Caffeine**, in which an atom of chlorine is introduced into the Caffeine molecule without displacement of the methyl radicals. A powerful diuretic, and also apparently a cerebral stimulant.

**Iodo Caffeine.**—See page 177.

**Caffeine Phthalate.**—A white powder with a slightly bitter taste. It is soluble in water, and may be used as the other soluble salts of Caffeine.

**Caffeinæ Sodio-Salicylas.**—A white powder, containing 62·5 per cent. of Caffeine, very soluble in water. *Dose*—1 to 4 grains, hypodermically. In endocarditis, rheumatic and acute pericarditis with effusion, and other forms of heart disease, it gives good results.—*T. G.*, Oct., '87.

Caffeine is very soluble in aqueous solutions of Benzoate, Cinnamate and Salicylate of Sodium which dissolve it in chemically equivalent quantities, forming corresponding salts to the above.

**Injectio Caffeinæ Hypodermica.**—1 grain Caffeine in 3 minims, rendered soluble by Salicylate of Sodium, with which it combines chemically. An irritating injection, useful in alcoholic, morphine, and eucalyptus poisoning. *Dose*—1 to 6 minims (0·06 to 0·35 cc.)

**Hypodermic Tablets** contain  $\frac{1}{2}$  grain each.

**Caffeinæ Sulphas.**—A crystalline white powder, slightly soluble in water. *Dose*— $\frac{1}{2}$  to 5 grains (0·032 to 0·32 gm.)

**Caffeinæ Valerianas.**—Used to check nervous vomiting in hysteria. *Dose*— $\frac{1}{2}$  to 3 grains (0·032 to 0·2 gm.)

Cases of poisoning by Caffeine have occurred. The best antidotes are Nitroglycerine and Apomorphine.—*L.*, '83, i. 680; 89, i. 219.

## CAJEPUTI OIL.

The oil distilled from the leaves of *Melaleuca leucadendron* (Myrtaceæ). A mobile transparent fluid of a pale bluish green colour. It consists largely of a body named *Cajuputol*. The characteristic green colour has been attributed to chlorophyll, but is generally believed to be due to copper, probably from the vessels in which the oil is distilled. It is colourless when rectified.—*D.g.*

Useful in flatulent colic, painful spasmodic affections of the stomach, hysteria, &c. Externally it forms a valuable embrocation in rheumatic, neuralgic, and other painful affections.

*Dose*—1 to 5 Drops. (P. I.)

## CALCIUM.

The Calcium salts are given more as a convenient means of administering the various acids than for the special virtues of the Calcium base, although in some cases the "lime salts" possess special advantages. The therapeutic value of the various salts, however, depends on the nature of the acid to a very great extent.

**Calcii Boras.**— $\text{CaB}_4\text{O}_7$ . Borate of Calcium. A white powder which is dissolved by Calcium Chloride solution, as well as by solutions of Borax. An internal astringent. *Dose*—For children 2 grains for every year of their age.

**Calcium Carbide.**—In solid crystalline masses, evolving acetylene gas when brought into contact with moisture or water. The authorities require this to be specially stored.

**Calcii Chloridum, B.P.**  $\text{CaCl}_2$ .—Known also as "Muriate of Lime" to distinguish it from bleaching powder called "Chloride of Lime." In white agglutinated masses, dry, but deliquescent.

It is employed chiefly in glandular diseases, also for sickness and in tubercular disease. *Dose*—5 to 15 grains (0·32 to 1 gm.)

**Calcii Glycerino Phosphas.**—Glycerino-Phosphate of Calcium,  $\text{CaC}_3\text{H}_7\text{PO}_6$ . A white crystalline soluble powder, the solution becoming turbid on heating; almost insoluble in boiling water. Definite dose statements have not been given. Indicated when it is desired to augment the proportion of Phosphorus in the organism.

**Calcii Hippuras;**  $\text{Ca}(\text{C}_9\text{H}_5\text{NO}_2)_2 \cdot 3\text{H}_2\text{O}$ .—In white crystals, soluble about 1 in 30 of water. A solvent for urates in gout, gravel and calculus. It is not decomposed by passing through the system. *Dose*—5 to 20 grains (0·32 to 1·3 gm.).

**Calcii Lactas.**—See page 14.

**Calcii Hypophosphis.**—See page 232.

**Calcii Permanganas.** (*Monol*)  $\text{CaMn}_2\text{O}_7$ .—A deliquescent salt, used as an antiseptic like the potassium salt (see p. 249), but preferred to the latter for mouth lotions, as it has less taste.

**Calcii Saccharas.**—Soluble in water, used as an antacid for dyspepsia and flatulence. Useful for children. *Dose*—8 to 30 grains, (0·52 to 2 gm.)

**Liquor Calcis Saccharatus B.P.**—Saccharated solution of lime. Contains 8·16 grains per ounce of calcium oxide. *Dose*—20 to 60 minims (1·2 to 3·5 cc.).

**Calcii Salicylas.**—A white crystalline powder, odourless, soluble in acidulated water. Used in diarrhoea. *Dose*—2 to 20 grains (0·13 to 1·3 gm.).

**Calcii Sulphidum.**—See page 79.

**Calcii Sulphophenas.**—An intestinal antiseptic and astringent, prepared by the action of Sulphocarbolic Acid on Acid on Calcium Carbonate. A white, almost odourless, permanent stringent bitter powder, freely soluble in water and alcohol. Administered internally in 1 per cent. aqueous solution, sweetened.—*A. M. S. B.*, May 1, '95.

## CALOTROPIS GIGANTEA.

**Mudar, Swallow Wort.**—The Root Bark of two or more closely allied species of *Calotropis* (*Asclepiadea*), *C. gigantea*, and *C. procera*.

The Root Bark, dried, occurs in small flat or arched pieces, brownish externally, a yellowish grey colour internally: with a peculiar smell and mucilaginous, nauseous acrid taste. Its activity appears to be due to a peculiar extractive matter called *Mudarine*. P. I.

In the dried bark of the root we have an adequate substitute for *Ipecacuanha*, and when combined with opium a good representative of the official Dover's powder is prepared. In dysentery in doses of 5 to 10 grains it may be safely substituted for *Ipecac.* though double the quantity is generally required.—*Dey.*

## CALX SULPHURATA, B. P.

**Sulphurated Lime; Calcium Sulphide; Canton's Phosphorus.**—A white or yellowish powder, containing not less than 50 per cent. of Sulphide of Calcium,  $\text{CaS}$ . Very useful for boils, acne, carbuncles, suppurating glands, etc. It hastens maturation and prevents the formation of fresh boils.—*Ring.*

*Dose*— $\frac{1}{10}$  to 1 grain (0.0065 to 0.065 gm.) For boils,  $\frac{1}{10}$  grain (0.0065 gm.) every hour. For suppurating glands in the neck.  $\frac{1}{2}$  to 1 grain (0.032 to 0.065 gm.) every 2 hours, continued for several weeks.

**Sulphide of Calcium Pills** (Gelatine-coated).— $\frac{1}{10}$ ,  $\frac{1}{8}$ ,  $\frac{1}{4}$ ,  $\frac{1}{2}$  and 1 grain.

A good sulphurous bath may be made by adding a dilute acid to Sulphurated Lime mixed with water.

**Lotio Calcii Sulphurati.**—(Resembles in composition *Vleminekx's Solution*). A clear yellow liquid said to cure itch in half an hour. Should be diluted with an equal quantity of water and applied to the patient after a bath.

Sulphurated Lime acts internally by liberating sulphuretted hydrogen, an effect which may be obtained in a more pleasant manner by using.

**Syrupus Sulphatam** (Symonds').—Containing in solution the Sulphates of Berberine, Quinine, Iron, Potassium and Sodium, with Sulphuric Acid, Glycerine, and Spirit of Chloroform. It is useful for boils, etc., sulphuretted hydrogen being formed in the system by the decomposition of the sulphates, while the bases act

as tonics. *Dose*—Half an ounce (15 cc.) Also in the form of pills, each equal to two drachms of the Syrup.

Sulphide of Calcium also acts as a harmless and efficacious **Depilatory**, and forms the basis of some of the best preparations of this class.

## CALENDULA.

(Marigold) **Tinctura Calendula Florum. B. P. C.**—Marigold Flowers in No. 20 powder 4. Proof Spirit to 20. Made by maceration and percolation.

*Dose*.—5 to 20 minims (0·3 to 1·2 cc.)

Used in dressing incised wounds.

## CALLIANDRŒ HOUSTONI.

A leguminosa of pambotano. A remedy against marsh fever. Used chiefly in the form of an infusion of the bark.

## CAMPHORA, B. P.

**Camphor**;  $C_{10}H_{16}O$ .—A stearoptene obtained from the wood of *Cinnamomum camphora* (Lauracæ). Supplied in bells, tablets or sublimed powder known as **Flowers of Camphor**. Stimulant, afterwards sedative; antispasmodic; diaphoretic; a mild antiseptic.

*Dose*—2 to 5 grains (0·13 to 0·32 gm.)

*Official Preparations*.—Aqua (1 in 1000); Linimentum Camphoræ Ammoniatum (The old Lin. Camph. Co.), 1 in 4; Spiritus, 1 in 10; Tinctura Composita, 0·3 per cent.

*Unofficial Preparations in Common Use*.—Camphor Ball; Camphorated Chalk and Camphorated Myrrh Dentifrices; Rubini's Camphor (a saturated solution); Pills, Lozenges, Pilules, etc.

**Essential Oil of Camphor** (Japanese).—Obtained as a bye-product in the manufacture of Camphor. Varies in colour; sp. gr. 0·898 to 0·990. It contains a variable amount of Camphor in solution, and is used by the Chinese as a rubefacient.—*Ph. J.*, Sept. 24, '87.

**Camphorated Carbolic Acid**.—See page 7.

**Elixir Camphoræ.**—1 in 15. Miscible with water. *Dose*— $\frac{1}{2}$  to 1 drachm (1·8 to 3·5 cc.)

**Camphoid.**—Pyroxylin 1. Camphor and Alcohol 20 each by weight. Used as a substitute for Collodion.

**Camphora Monobromata.** Monobromide of Camphor, Bromo-Camphor;  $C_{10}H_7BrO$ .—A substitution compound of Camphor, in colourless prisms, soluble in spirit, ether, and chloroform; sparingly soluble in water and glycerine. Odour and taste camphoraceous. A hypnotic and sedative in hysteria, epilepsy, delirium tremens, etc., but its use requires caution. Said also to be an antidote to Strychnine. *Dose*—2 to 10 grains (0·12 to 0·65 gm.) in pill, or **Elixir** (4 grains to 1 ounce).

**Camphor Naphtol.**—Made by melting one part of powdered beta-naphtol with two parts of powdered camphor. An oily fluid, soluble in Alcohol, Ether, and Oils, insoluble in water. Dissolves Iodine, Cocaine and Cinchona Alkaloids. An external Antiseptic and Antiparasitic.

**Camphor Phenol.**—A solution of Camphor in 3 parts of 90 per cent. Carbolic Acid. A clear oily fluid of camphoraceous odour and taste. Insoluble in water, easily soluble in vegetable oils and petroleum jelly. Dissolves Salicylic Acid, Cocaine and Iodoform, and is said to disguise the odour of the latter. Antiseptic, antipuritic, local anæsthetic and crurminative. *Dose*—5 to 10 drops in capsules. Applied externally in 50 per cent. oily solution.

**Camphor Salol.**—Prepared by melting together 3 parts of Salol and 2 of Camphor. Light yellow, oily fluid easily soluble in ether, alcohol and oils; insoluble in water. Dissolves iodine and alkaloids. Used as an external antiseptic in cutaneous diseases.

**Camphora Salicylata.**—See page 19.

**Camphoric Acid;**  $C_{10}H_6O_4$ .—A white crystalline substance, having an acid taste, with difficulty soluble in water, but readily soluble in alcohol, ether or fixed oils. It is prepared from Camphor by oxidation with Nitric Acid. Recommended for the treatment of acute and chronic affections of the respiratory passages, a one per cent. solution being

applied. In acute angina  $\frac{1}{2}$  to 1 per cent. solution every 3 hours is also recommended.—*Ph. J.*, Dec. 29, '88. Has also been found serviceable in checking the night-sweats of phthisis, in doses of 2 to 3 grammes. The effects were sometimes not manifested the first night after administration, but became apparent on the following and other nights.—*Ph. J.*, June 28, '90. *Dose*—10 to 12 grains (0.65 to 1.3 gm.)

## CANNABIS INDICA. B.P.

**Indian Hemp; Haschisch.**—The dried flowering tops of the female plants of *Cannabis sativa*, Linn. (Urticaceæ), from which the resin has not been removed. Cultivated in India. Found wild in the Himalayas and Kashmir. The following are the native names applied to Cannabis in its different forms:—

**Gunjah**—The dried flowering tops.

**Churrus**—The resinous exudation.

**Bhang, Subjee, or Sidhee**—The larger leaves or capsules. Gunjah contains about 2 per cent., Churrus 40 per cent., and Bhang 10 per cent. of resin. This contains the active principle besides fatty matters and chlorophyll.—*Dey*.

**Majun**—A sweetmeat composed of *Bhang*, butter, and flour.

A sedative, anodyne, and hypnotic. For headaches of a continuous or chronic character, the extract is given in doses of half a grain night and morning, gradually increased to two grains at night, and one and a half in the morning, and persevered in steadily. In chronic opium-poisoning,  $\frac{1}{4}$  grain, increased to  $\frac{1}{2}$ , 1, and  $1\frac{1}{2}$  grain, 3 times a day, and then gradually withdrawn.—*L.*, Mar. 3, '89. In summer diarrhoea 10-minim doses of the Tincture have been recommended, in conjunction with other remedies, as not interfering with the digestive functions, but rather improving them.

Cannabis is a true sedative to the stomach, without the inconvenience of chloral, bromides, or opium. In gastric disorders, chiefly non-organic affections of the stomach, it relieves pain and increases the appetite.  $\frac{1}{4}$  grain of the Extract, 3 times a day, with large doses of alkalies and mild aperients, is the maximum dose tolerated.—*L.*, Sept. 29, 90.



The therapeutic action of this drug is not as thoroughly appreciated by Indian Practitioners as its undoubted virtues demand.

**Extractum Cannabis Indicæ, B. P.**—Alcoholic. *Dose*— $\frac{1}{4}$  to 1 grain (0.016 to 0.065 gm.)

**Tinctura Cannabis Indicæ, B. P.**—1 (Extract) in 20. *Dose*—5 to 20 minims (0.3 to 1.2 cc.), with mucilage; not miscible with plain water.

**Cannabin Tannas, Cannabin Tannate.**—A yellowish brown powder prepared from Cannabis Indica. It is insoluble in water or ether, slightly soluble in alcohol, freely soluble in water rendered slightly alkaline. Recommended as a hypnotic, especially in nervous sleeplessness and acute mania. Unlike opium and morphine, it does not derange the secretions, nor does it leave any toxic after-effects. It is said to be free from the irritating volatile oils present in the drug. *Dose*—2 to 10 grains (0.13 to 0.65 gm.) Average dose, 4 grains an hour before bed-time.

**Cannabinon.**—A dark brown resin, semi-liquid. Has been used as a sedative in mania, sleeplessness, etc., and is said to be more certain than the above. *Dose*— $\frac{1}{4}$  to 1 grain (0.016 to 0.065 gm.)

**Cannabinol.**—A toxic red oil. Is a constituent of Cannabinon and of Charas, as well as of Gunjah and Haschisch.

**Cannabine,** the pure alkaloid, is a brown syrupy liquid, and is recommended as a hypnotic in doses of 1 to 5 grains (0.065 to 0.32 gm.) daily.

A crystalline alkaloid, *Tetano-cannabine*, having an action similar to strychnine, has also been isolated.—*Ph. J.* xiii. 998.

## CANTHARIS, B. P.

**Cantharides.**—Spanish or Blistering fly.

**Acetum Cantharidis, B. P.**—1 in 10. *The menstrum is now stronger in acetic acid.*

**Collodium Vesicans, B. P.**—*Quantity of Pyroxilin now reduced by half.*

**Emplastrum Calefaciens, B. P.**—Warming Plaster. *Expressed oil of nutmeg now omitted.*

**Emplastrum Cantharides** B.P. (about 1 in 3).—*Soap Plaster, now used in place of suct.*

**Liquor Epispasticus** B.P.—Blistering Fluid, *now twice the strength of B. P. 1885.*

**Tinctura Cantharides** B. P. (1 in 80). *Dose*—5 to 15 minims (0.30 to 0.9 cc.).

**Unguentum Cantharides** B.P.—Now 1 to 10. Benzoated Lard, instead of 1 to 7 of a mixture of Olive Oil and Bees-wax.

**Cantharidin**.—White crystalline scales soluble in chloroform, acetone, acetic ether, ether, benzene, glacial acetic acid, fats and oils. Used in solution for stimulating growth of hair.

**Linimentum Crinale** (Squire).—Cantharidin 1 grain Acetic Aether 6 drachms, dissolve with a gentle heat and add Alcohol (90 per cent.) 3 oz., Castor oil 1 oz., oil of Lavender 15 minims. May be diluted with an equal quantity of spirit for delicate skins.

## CAPSICI FRUCTUS, B.P.

**Capsicum**.—The fruit of *Capsicum fastigiatum* (Solanaceæ). The powder is known as *Cayenne* or *Nepaul Pepper*. Internally used as a stimulant and corrective, externally as a rubefacient. As a snuff, it is used with Borax and Carbonate of Ammonium for hay fever. *Dose*— $\frac{1}{2}$  to 1 grain (0.32 to 0.065 gm.)

Capsicum owes its pungency and acidity to an oleoresin called *Capsicin* (see below). Another crystalline substance *Capsaicin* is found in the pericarp which causes violent griping and purging in doses of  $\frac{1}{4}$  grain.

**Tinctura Capsici** B. P.—1 in 20. *Dose*—5 to 15 minims (0.3 to 0.9 cc.)

**Tinctura Capsici Fortior** B. P. C.—1 in 3. Identical with Dr. Turnbull's Tincture. *Dose*—1 to 3 minims (0.06 to 0.18 cc.), chiefly used externally.

**Linimentum Capsici**—1 in 10. For chest affections, rheumatism, etc. Does not blister the skin, and its action may be arrested by smearing with vaseline.—*M.*, p. 96.

**Tinctura Capsici Ætherea.**—Same strength as B. P., made with pure ether.\* Applied on spongio-piline it is a most efficient rubefacient, or it may be used as a liniment, 1 in 4, with Ammonia Turpentine, and Linseed Oil.—*M. R.*, Sept. '90.

**Unguentum Capsici.** B. P.—Resembles Smedley's Chilliie Paste.

**Oleo-resina Capsici.** U.S.P. *Capsicin*.—Obtained from Capsicum by treatment with ether, and subsequent separation of fatty matter. A thick red liquid, soluble in alcohol, ether, and oil of turpentine.

**Unguentum Oleo-resinæ Capsici.** B.P.C.—1 in 4½. Too strong for tender skins.—*M.*

**Emplastrum Capsici.** U.S.P.—Spread on muslin, etc., and containing ¼ grain Oleo-resin in each square inch.

**Collodium Capsici.**—15 grains to 1 ounce.

## CAPTOL.

A condensation product of tannin and chloral, forming a dark brown powder. Introduced by Dr. Eichhoff. Soluble in warm alcohol or water, fairly soluble in cold water. Used as a medical cosmetic for seborrhœa—a ½ per cent. solution in alcohol is rubbed into the scalp morning and evening, avoiding all other dressings.

## CARDINE.

An extract from the ox's heart. Recommended as a Cardiac Tonic in nervous debility and for use in anæmia and debility.

## CARNIFERRIN.

A meat iron phosphate compound, tasteless, readily absorbed, and mixes with acid and alkaline solutions without decomposition. *Dose*—8 grains (0.52 gm.) for adults daily.

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\* The use of ether as a menstruum for drugs applied to the skin has a warm advocate in Sir James Sawyer. Owing to its solvent action on the sebaceous secretion of the skin, it has a much greater penetrating power than other forms of application, while it also possesses the advantage of being a solvent for many active drugs. (See also pages 64, 180, 290).—*M. R.*, Sept. '90, *ex Lancet*.

## CARNIS EXTRACTUM.

**Extract of Meat; Liebig's Extract.**—Prepared by concentrating an aqueous infusion of meat. This article, as imported from South America, is seldom fresh; preference should, therefore, be given to preparations made in India, of which the following are most popular:—

**Extractum Carnis Liquidum.** Nutritive Extract.—A liquid extract of meat, in form most convenient for the sick-room.

**Extract of Beef.**—Prepared in the same manner as the South American extract, the infusion being thoroughly filtered before evaporation. This removes particles which would tend to impair its keeping qualities.

**Extract of Mutton.**—Similar to the last but prepared from mutton.

**Extract of Chicken.**—This is prepared from chicken in a similar manner, and is preferred generally by invalids as being more grateful.

### *Other Meat Preparations.*

**Essences of Beef, Mutton and Chicken.** Brand's.

**Peptonised Beef Jelly.**—See page 219.

**Liquor Carnis.** Caffyn's.

**Meat Juices.** Valentine's, Wyeth's, and L. C. C. (Liquor Carnis Co.'s).

**Sanguis Bovinus Exsiccatus.** Dried Bullock's Blood.

**Vinum Carnis.** Nutritive Wine.

**Vinum Carnis cum Ferro.** Nutritive Wine with Iron.  
—Closely resembles the preparation sold as "Beef and Iron Wine."

**Somatose.**—Prepared from meat and consisting principally of albumose.

**Ferro-somatose.**—Contains about 4.5 per cent. of Ferric Oxide with Albumose.

**Lacto-somatose.**—Contains the albumoses of milk, dessicated.

**Creatine.**—A substance ( $C_4H_9N_3O_2$ , or Methyl-guanidoacetic acid), occurring in flesh, and which has been recommended for

debility and as a muscular stimulant. It is considered advantageous to administer this form in affections of the stomach, the gelatinous constituents of Extract of Meat being injurious under such conditions.—*Ph. J.*, Dec. 29, '88. *Dose*— $1\frac{1}{2}$  grains (0.1 gm.), 4 to 6 times daily.

**CARPAINÉ.**—See page 221.

### CARVACROL.

**Cymenol.**—A liquid constituent of the oils of species of *Organum* and *Thymus*. An Antiseptic.

**Carvacrol Iodide (Iodocrol).**—A light brown odourless powder, insoluble in water, slightly in alcohol, readily in ether, chloroform, etc. A substitute for Iodoform.

### CASCARA AMARGA.

**Picramnia Bark; Honduras Bark.**—The bark of an undetermined species of *Picramnia*.—Recommended as a tonic, alterative, and antisyphilitic.

**Extractum Cascara Amarga Liquidum.**—Not miscible with water. *Dose*—30 to 60 minims (1.8 to 3.5 cc.).

### CASCARA SAGRADA, B. P.

**Sacred Bark; Rhamni Purshiani Cortex, B. P.**—The dried bark of *Rhamnus Purshianus*, a North American tree. Laxative and tonic, in large doses cathartic. Especially indicated in habitual constipation as a tonic laxative. Given in small doses, at regular intervals, it imparts tone and restores the normal action of the bowels.

*Dose*—3 to 15 grains, in powder (0.2 to 1 gm.).

**Extractum Cascaræ Sagradæ, B. P.**—*Dose*—2 to 8 grains (0.13 to 0.52 gm.), a dry aqueous extract.

**Extractum Cascara Sagrada Liquidum, B. P.**—An aqueous extract preserved by the addition of one-fourth of its volume of 90 per cent. alcohol. It is miscible with water. *Dose*—30 to 60 minims (1.8 to 3.5 cc.).

**Cascara Capsules.**—Representing each half a drachm of Liquid Extract. *Dose*—One or two.

**Cascara Lozenges.**—Containing 2 grains solid extract in each, prepared with chocolate. *Dose*—Children, 1 Lozenge,—adults, 2 or 3, at bed-time.

**Cascara Pills** (Gelatine coated).—3 grains solid extract in each. *Dose*—One or two.

**Syrupus Cascara Aromaticus, B.P.**—Similar to the Elixir. *Dose*— $\frac{1}{2}$  to 2 drachms (1·8 to 7 cc.)

**Elixir Cascara Sagrada, B.P.C.**—The bitter taste is agreeably disguised by aromatics. *Dose*—30 to 120 minims (1·8 to 7 cc.)

**Syrupus Cascara Sagrada, B.P.C.**—One of Liquid Extract in 5. Suitable for children. *Dose*—1 to 4 drachms (3·5 to 15 cc.); for children  $\frac{1}{2}$  to 1 teaspoonful.

**Tinctura Laxativa.**—Liquid Extract Cascara Sagrada 2, Aromatic Spirit of Ammonia 2, Spirit of Chloroform 2, Tincture Belladonna 1, Tincture Nux vomica 1.—Miscible with water. A laxative aperient. *Dose*—20 to 60 minims (1·2 to 3·5 cc.)

**Extractum Cascara Sagrada Insipidum.**—Almost tasteless, and forms a clear mixture with water. *Dose*—10 to 60 minims (0·06 to 3·5 cc.)

**Liquor Cascara Aromaticus.**—Half the strength of the preceding, contains aromatics, alcohol, and saccharin. *Dose*—1 to 3 drachms (3·5 to 7 cc.). Also useful as a corrigent and adjuvant to constipating drugs.

## CAULOPHYLLIN.

A brown resinoid powder obtained from the root of *Caulophyllum thalictroides* (Berberidaceæ); (Blue Cohosh, Squaw Root, or Papoose Root, *U. S. P.*). Anthelmintic, diuretic, and diaphoretic; used principally as an emmenagogue, parturient, and antispasmodic. It has a direct influence on the uterus, checking contractions in cases of threatened abortion, and may be given in cases where ergot is not available.

*Dose*—1 to 4 grains (0·065 to 0·26 gm.)

**Liquor Caulophyllin et Pulsatillæ Co.**—A proprietary preparation, recommended as a uterine tonic and sedative.

Combines the action of the two drugs.—*L.* June 8, '89. *Dose*—One drachm (3·5 cc.)

**Pilulæ Caulophyllin et Pulsatillæ.**—Each represents one drachm of the Liquor.

**A Liquid Extract and Tincture** are also prepared having the same dose.

### CERBERINUM.

**Cerberid.**—A glucoside obtained from *Cerbera Yecotli*. A remedy for heart troubles. Is a powerful heart poison, and not recommended for practical use.

### CEREBRINE.

**Medullin.**—A brain extract, prepared in England in a similar manner to Thyroid Extract. *Dose*—5 to 20 minims (0·30 to 1·2 cc.) Used in nervous diseases by subcutaneous injection.

### CHAVICOL.

(Para-allyl-phenol).—A colourless liquid obtained by treating the oil of betel leaves (*Piper betel*) with caustic alkali, separating the alkaline solution of the phenol and precipitating with dilute acid. Soluble in Alcohol, fixed oils, ether and chloroform; very sparingly soluble in water. It has strong antiseptic properties. See page 53.

### CHEKAN.

**Cheken Chequen.**—The leaves of *Myrtus Chekan* (*Eugenia Chequen*), Myrtaceæ, a shrub growing in Chili. Contains 1 per cent. of volatile oil, which is the most important constituent, also *Chekenie Acid*, *Chekenon*, *Chekenetin*, and a bitter principle. Possesses tonic, expectorant, diuretic, and antiseptic properties and has been used with success in bronchitis, catarrh of the bladder, and other affections of the mucous membrane.

**Extractum Chekan Liquidum.**—Not miscible with water. *Dose*—1 to 3 drachms (3·5 to 10·5 cc.)



## CHIMAPHILA, U.S.P.

**Pipsissewa.**—The leaves of *Chimaphila umbellata* (Ericaceæ). Tonic, diuretic, and astringent. Used in serofula, rheumatism, chronic catarrhal, affections of the bladder, dysuria, albuminuria, and gleet.

**Extractum Chimaphilæ Fluidum, U.S.P.**—Dose—30 to 60 minims.

## CHINOLINUM.

**Chinoline; Quinoline.**  $C_9H_9N$ .—A transparent, oily liquid, with a peculiar penetrating odour, soluble in alcohol, ether, and oils, but only slightly so in water. Colourless when freshly prepared, but becomes dark on keeping. Prepared synthetically from Aniline, Nitrobenzol, Glycerine, and Sulphuric Acid, but may also be obtained as a derivative of Cinchonine and Quinine. A powerful antiseptic and antipyretic. Its antiseptic properties are apparent even in an aqueous solution, which forms a good injection for gonorrhœa. One part in 50 of Rectified Spirit and 500 of Peppermint Water has been recommended as a gargle for diphtheria. Internally it is used in enteric and intermittent fevers and neuralgia.

A 0.1 to 0.2 per cent. solution, with sodium chloride and glycerine, has been found very useful as a preservative for anatomical specimens, preserving the tissues in their natural condition, except that they lose their colour.—*Ph. J.*, Dec. 22, '89.

**Dose**—3 to 10 minims (0.18 to 0.6 cc.). The Tartrate being more soluble is better adapted for use in medicine.

**Chinolini Tartras, Quinoline Tartrate.**—In odourless, white crystals, nauseous in taste, soluble about 1 in 40 of water. Recommended as a cheap substitute for Quinine, having been used with great success as such in many parts of India. **Dose**—5 to 15 grains (0.32 to 1 gm.)

**Chinolini Salicylas.**—Being less soluble than the above, this salt is not much used.

**Chinolin Sulphocyanas.**—Brought forward as a strong antiseptic, possessing every advantage of phenol, without any of its offensiveness. Pus, diphtheria, and cholera organisms are readily destroyed by it. Recommended in cases of bleenorragia.—*B. & C.* D., Jan. 21, '95.

## CHINOSOL.

A new antiseptic and deodoriser, a yellow-coloured powder, readily soluble in cold distilled water, forming a yellow solution, which is not affected by albumen, but is precipitated by alkalies. Chinosol is the potassium salt of a compound of oxychinoline, and sulphuric acid. It is a powerful disinfectant and antiseptic, non-irritating and non-poisonous. It is sold also in 15 grain **Tablets**, one of which dissolved in a pint of water (1-600) is said to be equal to 1-40 phenol solution.

Antiseptic dressings are also prepared, and a crude form for veterinary use.

## CHIRATA.

The entire dried plant of *Ophelia Chirata*; *Swertia Chirata* (Gartiancæ). The intensely bitter taste is due to *ophelic acid* and *chiratin*. It is a powerful pure bitter tonic, and prescribed in the form of tincture, concentrated solution and infusion.

## CHLORAIODOPOL.

A name given to a chloro-substitution product of phenol, creosote and guaiacol, to be used as an inhalation in the treatment of chronic affections of the lungs.—*C. & D.*, Dec. 22, '94.

## CHLORAL HYDRAS, B. P.

**Hydrate of Chloral; Trichlorethylidene Glycol**,  $\text{CCl}_3$ ,  $\text{CH}(\text{CH}_2)_2$ .—Prepared by acting on anhydrous alcohol with chlorine gas, purification, and hydration with water. In colourless crystals, non-deliquescent, having a characteristic odour and taste. When heated it fuses, boils, and finally volatilises without residue. Freely soluble in water, ether, chloroform, and glycerine. One minim of water will hold 1 grain in solution.

A valuable hypnotic, especially for nervous subjects, where opium and Indian hemp disagree. It is often combined with opium, morphine, or bromides. Applied locally, sprinkled, on adhesive plaster, it acts as a painless vesicant—*Y. B.* '87, 288. Two drachms in a tumblerful of brandy and water sponged well over the body at bed-time, checks the night sweats of phthisis.—*T. G.*, Feb. '89. A solution 5 grains to 1 ounce is said to be a remedy for dandruff and baldness. Internally it is

useful for tetanus, delirium tremens, and as an antidote to strychnine. A solution of Chloral Hydrate from 12 to 30 grains to the ounce, is a powerful antiseptic and is useful for preserving zoological and other specimens, having advantages over methylated spirit.

*Dose*.—5 to 20 grains (0.32 to 1.3 gm.) ; the taste may be covered by well diluting with chloroform water, or the addition of syrup of orange.

*Incompatibles*.—Quinine ; Alkalies (which liberate chloroform).

An over-dose of Chloral Hydrate causes cramp, swimming in the head, flushed face, and sometimes death. *Antidotes*.—Emetics, strong coffee, means to prevent sleep, artificial respiration if necessary, inhalations of amyl nitrite, hypodermic injections of  $\frac{1}{2}$  grain nitrate of strychnine.

**Chloral cum Camphora, B.P.C.**—Equal parts of Chloral Hydrate and Camphor, which form a clear liquid when rubbed together. Recommended as an application for neuralgia and rheumatism, painted over the painful part.

The alkaloids, morphine, atropine, and veratrine are soluble 1 in 30 in this preparation, but their salts are not. Chloral and Camphor should not be mixed with water or glycerine as the camphor will be precipitated.

The addition of **Cocaine**, 1 in 10, is a useful application for toothache from dental caries.—*P. M. J.*, '86, ii. 131.

**Chloral Caffeine**, see page 76.

**Chloral et Phenol.**—Equal parts of Chloral Hydrate and Carbolic Acid, which form a liquid.

Liquid preparations, are also formed by mixing Chloral Hydrate with *Thymol*, *Menthol*, and *Quinine* salts.

**Suppositoria Chloral.**—5 grains each. For infantile convulsions.

**Syrupus Chloral, B.P.**—30 grains to 1 ounce. *Dose*.— $\frac{1}{2}$  to 2 drachms (1.8 to 7 cc.)

**Bromidia.**—An American nostrum said to contain in each fluid drachm 15 grains Chloral Hydrate, 15 grains Potass. Bromid.,  $\frac{1}{2}$  grain Ext. Cannab. Ind., and  $\frac{1}{2}$  grain Ext. Hyoscy.  
*Dose*.—One fluid drachm (3.5 cc.)

**Liquor Bromochloral-compositus, B. P. C.**—One drachm contains 10 grains each of Chloral Hydrate and Potassium Bromide, with other ingredients. *Dose*— $\frac{1}{2}$  to 2 drachms. (1·8 to 7 cc.) Resembles the above.

**Meuphrosine.**—Another patent remedy, recommended as a hypnotic, contains probably an ether of nitro-phenol as its active constituent.—*K.*, July '90.

**Chloral-Ammonia,  $\text{CCl}_3 \cdot \text{CH}(\text{OH}) \cdot \text{NH}_2$ .**—A white crystalline salt, insoluble in cold water, decomposed by hot water. It is formed by passing Ammonia into a solution of Chloral in Chloroform, and has been recommended as a hypnotic, it being supposed that the amidogen which replaces one of the hydroxyl groups would act as a stimulant, counteracting the objectionable effects of Chloral Hydrate. Has no disturbing influence on the stomach. *Dose*—5 to 20 grains (0·32 to 1·3 gm.).

**Chloral and Antipyrin combinations.**—See page 230.

**Chloral Urethane (Ural, Uralin, or Uralium)** See page 300.

### CHLORALAMIDE.

**Chloral Formamide.  $\text{CCl}_3\text{OH} \cdot \text{CHO} \cdot \text{NH}_2$ .**—In small colourless crystals, soluble 1 in 20 of water, and 1 in 2 of alcohol. Taste mild, slightly bitter, not caustic. On heating in a dry tube it decomposes, giving off chloral, and also when treated with an alkali liberating chloroform and ammonia. It does not reduce Fehling's solution.

A valuable hypnotic, similar to Chloral Hydrate in action, but free from all influence on the heart and digestive organs. It is recommended in all cases of insomnia which are not the direct result of violent pain or severe excitation of the nervous system. It produces sleep in from half to one hour lasting 7 to 9 hours. Has been tried in a large number of cases, with very satisfactory results.—*Ph. J.*, Nov. 2, '89; *L.* Oct. 26, '89; *K.*, Jan. '90.

*Dose*—15 to 45 grains (1 to 3 gm.), preferably in slightly acidulated solution. It is incompatible with alkalies. Best dissolved in a little brandy, and cold water added.

**Chlorobrom.**—A speciality containing Chloralamid and Potassium Bromide in combination. Recommended for seasickness and sleeplessness. *Dose*—Half to one ounce.

## CHLORALOSE.

(Anhydro-gluco-chloral).—Fine colourless needles obtained by the combination of Chloral and Glucose, soluble in warm water, slightly soluble in cold. Used as a hypnotic. *Dose*—3 to 10 grains (·2 to 0·65 gm.)

## CHLORATOL.

Prepared by the action of Iodine on Turpentine. A greenish brown liquid, grows darker and thicker on exposure to the air. Insoluble in water, slightly soluble in alcohol; very soluble in ether, turpentine, chloroform, and acetone. An antiseptic dermic. Used externally only as ointment, or in collodion 10 per cent. strength; sometimes used pure.

## CHLOROLIN.

A disinfectant, consisting chiefly of mono and trichlorphenol.

## CHLOROFORMUM, B. P.

**Chloroform; Trichloride of Formyl; Trichloro-methane.**  $\text{CHCl}_3$ .—A colourless, volatile liquid prepared by carefully distilling a mixture of Slaked Lime, Chlorinated Lime, and Spirit. Freely soluble in alcohol, ether, and oils, but only to the extent of about 1 in 200 of water. It dissolves mastic, gutta-percha, and most resins, also iodine, bromine, and many of the organic alkaloids. Sp. gr. 1·490 to 1·495; it contains  $\frac{1}{2}$  per cent. of alcohol to prevent decomposition. A little dropped on the back of the hand should evaporate speedily and completely, leaving no unpleasant odour. A pure Chloroform is now largely manufactured from Acetone, by acting on it with Chlorinated Lime—*Ph. J.*, Aug. 3, '89. If it answers the tests of the B. P., Chloroform can now be made from acetone, &c., instead of pure alcohol.

Chloroform is largely used as an anæsthetic. Internally, it acts as a sedative and antispasmodic. Applied externally, it relieves the pain and itching of mosquito-bites. Its chief use, however, is as a general anæsthetic for surgical operations, although in this respect it has of late years been largely displaced by Ether owing to its tendency to reduce the blood pressure, and its very uncertain

action on the heart. Its vapour and aqueous solution are powerfully antiseptic, and are largely used to preserve animal and vegetable matters from decomposition.

For the simultaneous use of **Cocaine** and **Chloroform**, see page 107.

According to the report of the Hyderabad Commission, it would appear that death from Chloroform is really due to its checking the power of respiration. A small dose of Morphine is recommended to be given simultaneously for prolonged operations; or alcohol may be first administered to steady the circulation and give the patient confidence. With these and other precautions, Chloroform may be administered without danger.—*L.*, '90, i. 149, 421, 486, etc.

Compared with Ether as an anæsthetic, see page 25.

When the pupil contracts in the stages of insensibility, there is no danger: when it dilates, danger is to be apprehended.—*Ring.*

*Antidotes.*—Fresh air, artificial respiration; Nitrite of Amyl.

*Dose of Chloroform.*—1 to 5 minims (0·06 to 0·3 cc.)

**A.C.E.**—Known also as *Bryant's Anæsthetic*. A mixture of Alcohol (1), Chloroform (2), and Ether (3), the proportions being arranged so that the mixture shall evaporate at a uniform rate. Said to be safer than Chloroform and quicker than Ether. It is particularly recommended for use in midwifery.

**Chloroform Capsules.**—10 minims enclosed in a glass tube covered with wool.

**Chloroform and Ethyl Iodide Capsules.**—See p. 28.

**Chloramyl.**—Chloroform, containing 2 drachms Amyl. Nitrite to 1 pound. Not much used.

**Regnauld's Anæsthetic.**—Chloroform 4. Methylic Alcohol 1. Sometimes used in place of Chloroform.

**Aqua Chloroformi, B.P.**—1 in 400. *Dose*— $\frac{1}{3}$  to 2 ounces. *Half the strength of B.P. 1885.*

**Chloroformum Aconiti, B.P.C.**—See page 23.

**Chloroformum Belladonnæ.**—See page

**Chloroformum Camphoratum, B.P.C.**—Camphor 2 Chloroform 1. Applied on cotton wool for toothache, and topically for Rheumatism.



**Chloroform and Mastic.**—Used as a stopping for decayed teeth.

**Choloroform Salicylide.**—A synthetic anæsthetic having the constitution  $(C H_4 C O_2)_4$ ,  $(O H C L_3)_3$ , and containing 33·24 per cent. of Chloroform.

**Linimentum Chloroformi, B.P.**—1 in 2. A stimulating liniment.

**Spiritus Chloroformi, B.P.** ("Chloric Ether").—1 in 20. *Dose*—30 to 40 minims (1·8 to 3·4 cc.) or 5 to 20 minims repeated (C·3 to 1·2 cc.). Often added to mixtures to render them palatable.

**Tinctura Chloroformi Composita, B.P. 1885**—1 in 10. *Dose*—5 to 10 minims (0·3 to 3·5 cc.)

**Tinctura Chloroformi et Morphinae, B.P.**—*Contains about 4 times the proportion of morphine present in that of B. P. 1885.* Now a clear green thin liquid, dispensing cloudy with water. Intended to represent the patent medicine known as *Chlorodyne*. *Dose*—5 to 15 minims (0·3 to 0·9 cc.)

**Parson's Local Anæsthetic.**—Chlorform 12, Tinct. Aconit 12, Tinct. Capsic 4, Tinct. Pyreth. 2, Ol. Caryoph. 2, Camphor 2. It is credited with almost magical anæsthetic effects.—*Pract.*, Dec. '95.

## HCLOROPHYLL.

The pure colouring matter of leaves to which a little alkaline carbonate is added, in order to prevent the decomposition, which, when alone, it undergoes in time. Almost entirely dissolved by Alcohol or Ether, when these solvents contain a trace of free acid. For use in colouring remedies for internal administration.

## CIMICIFUGA, B.P.

**Actæa.** The rhizome and rootlets of *Cimicifuga Racemosa* (*Actæa Racemosa*). Black snake root, or Black cohosh. From the United States and Canada.

**Cimicifugin.**—A resinoid obtained from the above. *Dose*—1 to 6 grains (0·065 to 0·4 gm.) in pill. A nervine tonic and antispasmodic.



**Extractum Cimicifugæ Liquidum, B.P.**—1 in 1.  
*Dose*—5 to 30 minims (0·3 to 1·8 cc.)

**Tinctura Cimicifuga, B.P.**—(Tincture Aetæa) 1 in 10.  
*Dose*—30 to 60 minims (1·8 to 3·5 cc.)

### CINERARIA MARITIMA.

A plant cultivated almost everywhere. In Venezuela it has obtained a reputation as a cure for cataract, the leaf-juice being used. A case is quoted in which a cure was effected in two months.—*Ph. J.*, May 26, '88. Its use produces no irritation or inflammation, beyond a slight burning sense of pain which lasts for a minute or two.

**Succus Cinerariæ Maritimæ.**—The fresh expressed juice of the plant. 2 minims to be dropped into the eye, 3 times a day.

### CINCHONÆ CORTEX, B. P.

**Cinchona Bark.**—The dried bark of *Cinchona Calisaya*, *C. officinalis*, *C. succirubra*, *C. lancifolia*, and other species of *Cinchona*, may all be used for the preparation of the *Cinchona* alkaloids. Some species of *Remijia* may also be used to obtain salts of quinine and cinchonine. The cultivated Red Bark from *C. succirubra* is alone official for making galenical preparations. *Cinchona Calisaya*, *C. succirubra*, and *C. officinalis* are cultivated in India, as also a number of hybrids, at the Government plantations at Darjeeling and on the Nilgiris.—*Pg. Ind.*, ii 181.

The following are the barks most generally met with:—

1. **Yellow or Calisaya Bark.**—In quills, formerly in flattened pieces, from *Cinchona Calisaya*, and var. *Ledgeriana*. The most valuable of all the varieties of bark. Cultivated almost exclusively in India at the Himalayan plantations.

2. **Crown Bark; Pale Bark; Loxa Bark.**—From *C. officinalis*. Occurs in quills. The original *Peruvian Bark*. It is nearly as rich as Calisaya. Chiefly cultivated in India at Ootacamund, Southern India, and Ceylon.

3. **Red Bark.**—From *C. succirubra*. In quills of a red colour. It is official for galenical preparations, but is not suitable for preparing quinine owing to the large proportion of cinchonidine it contains.

4. **Soft Bark; Columbian or Carthagena Bark.**—From *C. lancifolia* and *C. cordifolia*. In quills or broken pieces, with whitish epidermis. These barks vary in the quantity and quality of their alkaloids.

5. **Pitayo Bark.**—From *C. Pitayensis*, in short curly pieces of a brownish colour. Rich in alkaloids, especially quinine and quinidine.

6. **Cuprea Bark.**—Yielded by species of *Remijia*. In short red quills and broken pieces. This is not a true *Cinchona* bark, but is included here as being a source of *Cinchona* alkaloids.

*Cinchona* Bark contains quinine, quinidine, cinchonine and cinchonidine, and isomeric modifications of these, also quinamine and uncrystallisable alkaloids. Some species also contain aricine, paricine, etc. Quinic acid, quinoic acid, cinchotannic acid, cinchona red, starch, etc., are also present.

*Remijia* Bark contains quinine, quinidine, cinchonine (no cinchonidine), and *Cupreine*, an alkaloid which exists in combination with quinine. This compound of quinine and cupreine was formerly taken for a distinct alkaloid and termed *Homo-quinine* or *Ultra-quinine*.—Howard.

**Sulphate of Cupreine** is manufactured and sold.

A modification of cinchonidine, called *Homocinchonidine*, and also a modification of quinine containing two additional atoms of hydrogen, and known as *Hydroquinine*, have been found in some samples.

*Cinchona officinalis* and *C. calisaya* are the best yielders of quinine, but as *C. succirubra* has been found to be most easily propagated, and although it contains less quinine, yields a larger percentage of total alkaloids, it has been made official.

**Cinchonæ Rubræ Cortex, B.P.**, Red *Cinchona* Bark.—From cultivated plants of *Cinchona succirubra*. (Ceylon and renewed bark do not answer to the B.P. description of this bark as regards external characters.) Should yield between 5 and 6 per cent. of total alkaloids, of which not less than half should consist of quinine and cinchonidine.

**Decoctum Cinchonæ, B.P. 1835.**—1 in 16. *Dose*—1 to 2 ounces, (30 to 60 cc.)

**Elixir Cinchonæ.** *Dose*— $\frac{1}{2}$  to 1 drachm (1·8 to 3·5 cc.)

**Extractum Cinchonæ Liquidum, B. P.**—Standardised to contain 5 per cent. of total alkaloids. 1=about 1 of bark. Has been recommended as a cure for dipsomania, great success being reported from its use.—*B. M. J.*, '80, i, 271. *Dose*—5 to 15 minims (0·3 to 0·9 cc.)

In the 1867 Pharmacopœia this was made from yellow bark, and should always be styled **Extractum Cinchonæ Flavæ Liquidum**; it was an inferior preparation, and not miscible with water like the new Extract.

**Infusum Cinchonæ Acidum, B. P.**—1 in 20. *Dose*— $\frac{1}{2}$  to 1 ounce (15 to 30 cc.)

**Mistura Ferri Aromatica, B. P.—1885** (Heberden's Ink.)—Contains Cinchona. *Dose*—1 to 2 ounces (30 to 60 cc.)

**Tinctura Cinchonæ, B. P.**—1 in 5. *Dose*— $\frac{1}{2}$  to 1 drachm (1·8 to 3·5 cc.) *standardised to contain about 1 per cent. alkaloids.*

**Tinctura Cinchonæ Composita, B. P.** (Huxham's Tincture.)—1 in 10. *Dose*— $\frac{1}{2}$  to 1 drachm. (1·8 to 3·5 cc.). *Standardised.*

**Cinchonidinæ Sulphas.**—See page 100.

**Cinchonina.**—See page 100.

**Quinetum, Cinchona Febrifuge.**—The mixed alkaloids from Red Cinchona Bark. A greyish white powder only slightly soluble in water, but easily dissolved with the aid of a dilute acid. It contains 50 to 70 per cent. cinchonidine. It represents the total alkaloids in the bark. More readily absorbed into the system than the crystalline alkaloids, and is extensively used in India in place of quinine, being cheaper. *Dose*—1 to 5 grains or more. (0·065 to 0·32 gm.)

**Quineti Sulphas.**—The sulphates of the above. In crystals like quinine, readily soluble in water containing a little dilute acid. Said to be more powerful in ague than quinine. *Dose*—1 to 5 grains (0·65 to 0·32 gm.): in ague 10 to 15 grains (0·65 to 1 gm.)

**Quinoidina; Quinoidine; Chinoidin, U. S. P.**—A mixture of amorphous alkaloids, obtained as a by-product in the

manufacture of crystallisable Cinchona alkaloids. A brownish black mass, insoluble in water, but rendered soluble by the addition of dilute acid. Used as a cheap febrifuge, dissolved in solution of Boric or Sulphuric Acid, but its taste is very nauseous. *Dose*—1 to 5 grains, or more (0·65 to 0·32 gm.)

The result of an extended trial in India of the various Cinchona alkaloids is embodied in a report made by the commissions appointed in Bombay and Madras. Quinine is reported as most efficacious, Quinidine, Cinchonidine and Cinchonine follow in order. The relative doses are Quinine 3 grains, Quinidine 5 grains, and Cinchonidine and Cinchonine 7 grains, each.

**Quinina.** See page 253.

**Quinidina.** See page 252.

### CINCHONIDINÆ SULPHAS.

**Sulphate of Cinchonidine.**—Formerly called *Quinidine Sulphate* or *Chinidin Sulphate*. In colourless, acicular, silky crystals, with a bitter taste; soluble 1 in 100 of water, more soluble in acidulated water, sparingly in chloroform and ether, 1 in 60 of rectified spirit. It is distinguished from Cinchonine by its solution being lævogyrate, and from Quinine and true Quinidine by its acid solution not being fluorescent, nor giving an emerald green colour with chlorine water and ammonia.

Recommended to be used like quinine in intermittent fever. *Dose*—1 to 10 grains (0·065 to 0·65 gm.).

**Cinchonidinæ Salicylas.**—Recommended as a tonic and antiperiodic in neuralgia, rheumatism, sciatica, etc. *Dose*—5 grains (0·32 gm.) every two hours.

### CINCHONINA.

**Cinchonine.**  $C_{19}H_{22}N_2O$ .—An amorphous alkaloid obtained from Cinchona bark; insoluble in water. It is isomeric with Cinchonidine, but may be distinguished from the latter by the solutions of its salts being dextrogyrate, and from Quinine and Quinidine by its giving no green colour with chloride water and ammonia. *Dose*—1 to 10 grains (0·065 to 0·65 gm.).

Being tasteless it has been recommended as a febrifuge for children in the form of

**Fulvis Cinchoninæ Compositus.**—1 in 5, with Bicarbonate of Sodium and Sugar of Milk. *Dose*—3 to 12 grains—M. (0·2 to 0·3 gr.)

**Cinchoninæ Hydrochloridum.**—Soluble in water and spirit. *Dose*—1½ to 10 grains (0·1 to 0·65 gm.)

**Cinchoninæ Sulphas.**—In hard, colourless, short prismatic crystals, with a vireous lustre, soluble in water, chloroform, spirit, and dilute acids, sparingly soluble in ether and solution of ammonia. It is cheaper than the other alkaloidal salts of Cinchona, and by some is held to be superior to quinine, but the taste is objectionable. *Dose*—1½ to 10 grains (0·1 to 0·65 gm.)

**Cinchonine Iodosulphate**, a compound analogous to quinine iodosulphate (herapathite), and prepared from Cinchonine Sulphate and Iodine, has been recommended under the name of *Antiseptol*, as a substitute for Iodoform. It is an odourless brown powder insoluble in water, but soluble in alcohol and chloroform, and contains 50 per cent. of Iodine.—*Ph. J.*, Aug. 30, '90.

**Cinchonininæ Iodomercuras**, a yellow amorphous powder, suggested as an external antiseptic.

## CINNAMOMUM ZEYLANICUM.

**Ceylon Cinnamon.**—Indigenous to Ceylon and Southern India. Its virtues reside principally in a volatile oil (*oleum cinnamomi*) in addition to which it contains *Tannin* and *Cinnamic acid*. It is aromatic, stimulant and emmenagogue.

**Aqua Cinnamomi, B.P.**—1 in 10 (B.P. 1855, 1 in 8.)

**Oleum Cinnamomi, B.P.**—*Dose*—½ to 3 minims (0·03 to 0·18 cc.)

**Pulvis Cinnamomi Co., B.P.**—1 in 3. *Dose*—10 to 40 grains (0·65 to 2·6 gm.)

**Spiritus Cinnamomi, B.P.**—1 in 10 (B.P. 1885, 1 in 50) alcohol 10 per cent. now used instead of S.V.R. *Dose*—5 to 20 minims (0·30 to 1·2 cc.)

**Tinctura Cinnamomi, B.P.**—1 in 5 (B.P., 1885, 1 in 8.) *Dose*—½ to 1 drachm (1·8 to 3·5 cc.)

## CISSAMPELOS PEREIRA.

**False Pereira Brava.**—(Menispermaceæ). Used as Decoction or Liquid Extract in acute and chronic cystitis. True Pereira is derived from *Condrodendron tomentosum*, and is official in the B.P.

## CITROPHEN.

A combination of citric acid and parphenetidin. Antipyretic and antineuralgic. A white aciculuous powder, soluble in about 40 parts of cold water, thus being more soluble than phenacetin or lactophenin, to which it is allied in action. *Dose*—3 to 8 grains (0.2 to 0.52 gm.)

## CITRUS AURANTIUM. P. I.

The sweet and bitter orange tree (Rutaceæ) cultivated in India.

The dried outer portion of the rind of the fruit (*Aurantii cortex*) is official in the P. I. It occurs in thin slices of a dark orange colour, nearly free from the white inner part of the rind, having an aromatic bitter taste and fragrant odour. These properties are most marked in the rind of the Bitter orange.

Stomachic and tonic, generally used as an adjunct to other medicines.

## COCA, B. P.

**Coca; Cuca; Erythroxylon, U.S.P.**—The dried leaves of *Erythroxylon Coca* (Erythroxylaceæ) cultivated in Bolivia and Peru, and other parts of South America. Coca has also been grown in some of the tea districts of India with considerable success.—*Ph. J.*, June 22, '88, *et seq.* The leaves are green or brownish, odour tea-like, taste somewhat bitter and aromatic. Another variety is met with. *Erythroxylon Bolivianum* (Bruck) is said to be a distinct species. The physiological action of Coca is due to the alkaloid **Cocaine** (see page 103), and is analogous to that of tea or coffee, but more powerful. It is used to a large extent by the natives of South America, who chew the fresh leaves for the purpose of appeasing or warding off hunger, thirst and fatigue, a property which they possess in a marked degree. The therapeutic applications of Coca may be summed up thus :—



1. As a stimulant for extra physical or mental work.
2. In gastric indigestion.
3. In the cachexiæ.
4. Against the effects of alcohol or morphine.
5. In asthma.
6. As an aphrodisiac.
7. As a local anæsthetic.

The freshly dried leaves are said to be most active.

*Dose*— $\frac{1}{2}$  to 2 drachms (2 to 8 gm.) chewed or in infusion.

**Elixir Erythroxyli et Guaranæ.**—See page 155.

**Extractum Cocæ Liquidum.** B. P.—Extractum Erythroxyli Fluidum. U. S. P.—Not miscible with water unless freed from wax. A very convenient preparation, one fluid ounce representing one ounce of the leaves. Has been found to check hæmorrhage from the bowel when given internally. *Dose*— $\frac{1}{2}$  to 1 drachm (1·8 to 3·5 cc.).

**Extractum Cocæ (Solid).** *Dose*—2 to 15 grains (C·13 to 1 gm.).

**Infusum Cocæ.**—1 in 50. As a gargle in tonsillitis and as a beverage flavoured with lemon.

**Pastils of Coca.**— $2\frac{1}{2}$  grains (0·15 gm.). *Dose*—One every 2 or 3 hours.

**Vinum Cocæ, Coca Wine.**—An agreeable form of administering the drug as a stimulant. It also checks the vomiting caused by irritable stomach, and relieves the pain of gastralgia. *Dose*— $\frac{1}{4}$  to  $\frac{1}{2}$  ounce (7 to 15 cc.).

A **Cordial** and an **Elixir** are also prepared, similar to Coca Wine, but of less alcoholic strength.

## COCAINA, B. P.

**Cocaine; Benzoyl-methyl-ecgonine.**  $C_{17}H_{21}NO$ .—An alkaloid obtained from Coca, of which it is the active principle, by treating with alcohol, precipitating the colouring matter with lime, and the alkaloid with carbonate of potassium, removing the latter with ether, and decolorising with animal charcoal. It was first isolated by Niemann in 1860. Most of the Cocaine now met with is separated in a crude form in South America, and



purified or converted into Hydrochloride in Europe. It occurs in colourless prisms, almost insoluble in water, but freely soluble in ether, chloroform, and oils. It produces anæsthesia on mucous membranes with which it comes in contact.

Coca leaves may contain as much as 0.45 to 0.50 per cent. of Cocaine, but the yield varies greatly. In addition to Cocaine, a volatile alkaloid, *Hygrine*, is said to be present in the leaves, together with *Cocamine*, *Cocaidine*, and *Egonine* (a derivative of Cocaine). Hygrine is supposed to be a mixture of oxygenated bases. An amorphous Cocaine has also been found in the leaves, which is supposed to be simply a solution of Cocaine in Hygrine.—*Ph. J.*, xvii. 861, 1039, 1049, 1068; xviii. 71, 437, 701; xix. 245, 863, 866. Egonine may be also obtained, together with benzoic acid and methyl alcohol, by heating Cocaine with hydrochloric acid. Cocaine has been prepared synthetically from Egonine by treatment with benzoic acid and the introduction of a methyl group, forming *Benzoyl-methyl-egonine* or Cocaine.—*Ph. J.*, Dec. 29, '88. This is made use of now in manufacturing the alkaloid from the leaves, the other bases being converted into Cocaine, and the yield of the latter thus increased.—*K.*, Jan. '90.

When the anæsthetic properties of Cocaine are required for external application in an oily menstruum, the pure alkaloid, which is soluble in oils, must be used, and not the salts, which are insoluble. The following preparations will be found convenient.

**Ceratum Cocainæ.**—1 in 30. For burns, pruritus, etc.

**Collodium Cocaine.**—2 per cent. in flexible Collodium.

**Emplastrum Cocainæ.**—2 per cent. for application in neuralgia, sciatica, tender corns, etc.

**Oleatum Cocainæ.**—See page 214.

**Oleum cum Cocaina.**—2 per cent. in Almond or Castor Oil. The former is suitable for the ear, the latter for the eye, or for smearing catheters. Also combined with **Homatropine**. See page 62.

**Suppositories, Pessaries and Bougies** contain  $\frac{1}{2}$  grain or more each.

**Obstetric Cones**, containing Cocaine, Boric Acid, and Cacao Butter, are also prepared. They are hollow, being intended to fit the index finger, to be used in lubricating the os uteri.

**Tablets.**  $\frac{1}{100}$  grain each, with Chocolate, are also sold. They are useful for sea sickness, vomiting of pregnancy, etc.

**Unguentum Cocainæ, B.P.**—1 in 25.

**Vaselinum Cocainæ.**—1 per cent. with Vaseline.

*Salts of Cocaine.*—

**Cocainæ Citras,** Citrate of Cocaine.—In very hygroscopic crystals. Used by dentists. *Dose*— $\frac{1}{20}$  to  $\frac{1}{2}$  grain (0·0032 to 0·032 gm.).

**Cocainæ Hydrobromidum,** Hydrobromide of Cocaine  
In small crystals. *Dose*— $\frac{1}{20}$  to  $\frac{1}{2}$  grain (0·0032 to 0·032 gm.).

**Cocainæ Hydroiodidum** Cocainæ Hydroiodide. Hard colourless crystals slightly soluble in water. *Dose*— $\frac{1}{20}$  to  $\frac{1}{2}$  grain (0·0032 to 0·032 gm.).

**Cocainæ Hydrochloridum,**  $C_{17}H_{21}NO_4H\ Cl$ .—The Hydrochloride is the salt in most common use. It occurs in colourless acicular crystals, or crystalline powder, freely soluble in water, alcohol, and glycerine, insoluble in ether and fixed oils. Taste somewhat bitter, producing a tingling sensation followed by numbness. Its aqueous solution dilates the pupil of the eye. Hydrochloride of Cocaine is also to be had in crystals containing 10 per cent. of water, but the anhydrous salt is official.

*Tests.*—It dissolves in cold sulphuric acid without the formation of any colour—but with effervescence owing to the escape of hydrochloric acid gas—and chars when heated with this acid. It leaves no residue on ignition. It gives a yellow precipitate with chloride of gold, a white precipitate with carbonate of ammonia, soluble in excess, and a white precipitate of pure Cocaine with solution of ammonia, insoluble in excess, but re-dissolving after some time owing to its conversion into benzoyl-econine. If 2 drops of a 1 per cent. solution of permanganate of potassium be added to 1 grain dissolved in 1 drachm of water, the red colour should remain for at least one hour if the sample be pure.

*Dose*— $\frac{1}{20}$  to  $\frac{1}{2}$  grain (0·0032 to 0·032 gm.).

Hydrochloride of Cocaine is very extensively used, especially in minor surgery, as a local anæsthetic. It is particularly adapted for producing anæsthesia in operations on the eye and throat.

In minor surgical operations it may be injected as a 10 to 20 per cent. solution in quantity equal to 1 to 4 grains of the salt. For the eye a 4 per cent. solution is preferable.

**Cocaine Lactas.**—A white, thick, honey-like mass, easily soluble in water, employed to avoid the increased sensitiveness of the "bladder" in the local treatment of tuberculous cystitis with lactic acid.—*A.M.S.B.*, Mar. 1, '91.

**Lamellæ Cocainæ, B.P.**—Gelatine discs containing each  $\frac{1}{10}$  grain Hydrochloride of Cocaine. Used in ophthalmic surgery. *Each dose is four times the strength of B.P. 1885.*

It is used for allaying hoarseness or irritation of the throat, and for this purpose is given in the form of **Tablets, Pastils, or Lozenges.** (See page 107.)

It also, like Coca, acts as a stomachic and nerve stimulant. In *sea sickness*,  $\frac{1}{12}$  grain every hour or oftener is a good remedy, often completely preventing the malady if taken regularly from the commencement of the voyage.\*

Other applications of Cocaine are so numerous that a mere reference must suffice.

**Hydrophobia**—4 per cent. solution injected into the back.

**Moles and warts**—6 grains in 1 drachm Nitric Acid, carefully applied with a glass rod.

**Coryza**—4 per cent. solution, applied to the nostrils.

**Gonorrhœa**—2 per cent. solution, injected, relieves the pain.

**Earache**—2 per cent. solution in the ear.

**Toothache**—Camphor 5, Chloral 5, Cocaine Hydrochloride 1. (See also page 109.)

Also recommended in dentistry, for burns, morphinisms, alcoholism, diabetes, etc.

**Injectio Cocainæ Hypodermica B.P.**—110 minims contains 10 grains. For sciatica and local affections. Highly recommended for scorpion-bites, having been used in nearly 100 cases, without one failure, or any ill effects.—*M. R.*, Sept. '90. *Dose*—2 to 5 minim (0·12 to 0·3 cc.).

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\* As the action of Cocaine is only temporary, and as its efficacy in sea sickness depends on its anæsthetic action on the nerves, small and frequently repeated doses are much more satisfactory in their results than large and occasional doses.

Same strength as *Liquor Cocainæ Hydrochloratis* of the B.P. additions 1890.

**Hypodermic Tablets** are made containing  $\frac{1}{8}$  and  $\frac{1}{4}$  grain each. The  $\frac{1}{4}$  grain Tablet may be placed in the hollow of an aching tooth to relieve the pain.

**Pastillus Cocainæ Hydrochloridi**  $\frac{1}{16}$  grain; (0.0055 gm.), and with **Morphia**  $\frac{1}{15}$  grain (0.0043 gm.) These and the **Lozenges** ( $\frac{1}{15}$  grain) (0.0054 gm.) are useful for invigorating the vocal organs.

**Cocaine Nitras**, large crystals, soluble in water. Compatible with nitrate of silver. *Dose*— $\frac{1}{10}$  to  $\frac{1}{2}$  grain (0.0032 to 0.082 gm.)

**Cocainæ Saccharis**, Saccharite of Cocaine.—A combination of Cocaine and Saccharin, recommended as a throat application for children; being sweet, it is easily applied. It is a white, amorphous, deliquescent salt, soluble in water.—*B. M. J.*, Mar. 10, '88; *Ph. J.*, Mar. 31, '88. *Dose*— $\frac{1}{2}$  to 1 grain (0.013 to 0.065 gm.).

**Cocainæ Salicylas**.—In minute crystals, slightly deliquescent. Its solution keeps well. *Dose*— $\frac{1}{10}$  to  $\frac{1}{2}$  grain (0.0032 to 0.032 gm.). Recommended for hypodermic injection in spasmodic asthma.

**Cocainæ Sulphas**, a granular white powder. *Dose*— $\frac{1}{10}$  to  $\frac{1}{2}$  grain (0.0032 to 0.032 gm.).

**Phenol-cocaine**: Cocaine Phenol.—A combination of Cocaine and Carbolic Acid. A mass of the consistency of honey, soluble in alcohol. Chiefly employed as a local anæsthetic in dentistry, but has also been given internally for catarrh of the stomach, and externally as a 1 per cent. solution for pains. *Dose*— $\frac{1}{10}$  to  $\frac{1}{2}$  grain (0.0032 to 0.032 gm.).

**Chloroform and Cocaine Anæsthesia**.—This consists in administering Chloroform in the usual manner, and simultaneously injecting Cocaine near the part to be operated on. The two drugs being antagonistic to one another, there need be no fear of an overdose of either. After the injection no more Chloroform need be given unless the operation is a long one. In a case of amputation of the thigh, 2 drachms of Chloroform were inhaled and one grain of Cocaine injected at the commencement. Two

drachms more Chloroform were required towards the close of the operation, which lasted 20 minutes, there being no vomiting on recovering consciousness. This treatment possesses the following advantages:—

1. The combined benefits of Cocaine and Chloroform.
2. The almost invariable absence of vomiting on recovering consciousness.
3. The greater facility with which consciousness is attained and the absence of general sickness.—*Ed. M. J.*, Dec. '88.

Cocaine is poisonous in an overdose. *Antidotes*.—The use of Nitrite of Amyl is recommended for relieving the cerebral anemia, and that of Bromide of Potassium and the application of cold for the convulsions which appear to be the main cause of death in fatal cases.—*V. B.* '87.

Solutions containing Cocaine appear in many cases to grow fungi after keeping a short time. Many remedies have been recommended as salicylic acid, thymol, boric acid, perchloride of mercury, camphor, chloroform, etc. Boric acid does not efficiently prevent fungi, perchloride of mercury forms a double salt, and the others are too irritating for use as eye solutions. The best proceeding is to use *pure* Cocaine Hydrochloride (see page 109), sterilise the water by boiling before use, and preserve the solution in clean stoppered bottles. Brushes, etc., should not be dipped into the bottle.—*M.*

Cocaine Hydrochloride is incompatible with borax, the latter being alkaline in dilute solutions and precipitating the alkaloid. A little boric acid should be added to keep the solution clear.—*M. R.*, Aug. '90.

**Tropa-cocaine**, Benzoyl-pseudotropeine. A coca base, extracted from the small leaved plant of Java, and identical with pseudo-tropeine obtained from hyoscyamus. It is stated to be of particular utility in inducing anaesthesia of the cornea, does not dilate the pupil. It is a very costly salt.

**Eucaine A.**—A synthetic compound chemically allied to cocaine.

**Eucaine Hydrochloride A.**—A benzol methyl compound as oxyperidine, small crystals soluble 1 in 10 of water, and used of a substitute for cocaine.

**Eucaine B.**—A synthetic compound closely allied to Eucaine A. and cocaine

**Eucaine Hydrochloride B.**—The hydrochloride of Benzoyl-vinyl-diaciton-alkamine.—Small white crystals, soluble 1 in 20 of water—superior to Eucaine Hydrochloride A. for ophthalmic use, as it is free from the irritating properties of the latter.

**Holocain P.**—Diethoxy-ethenyl-diphenyl-amidine.—A crystalline body insoluble in water, strongly basic, forming salts which crystallize well but are very insoluble.—The **Hydrochloride** is in white needles, easily soluble in boiling, but only to the extent of  $2\frac{1}{2}\%$  in cold water. B. & C. P., 9. 4. 9.—Used in ophthalmic practice in a 1% solution, producing an anesthesia in 1 or 2 minutes and which lasts 5 or 6 minutes. It cannot be used for Hypodermic use on account of its poisonous effects.

**Orthoform.** See page 217.

## CODEINA, B. P.

**Codeine; Codeia; Methymorphine.**  $C_{18}H_{21}NO_3H_2$ , O.—An alkaloid of Opium. In colourless or nearly colourless crystals, soluble 1 in 80 of water, very soluble in alcohol, dilute acids, and excess of liquid ammonia. Taste slightly bitter. It is prepared from Opium; and also synthetically from Morphine, by treating the latter with caustic soda and chloride or iodide of methyl.

Codeine is a useful sedative in phthisical cough, and in larger doses acts as a hypnotic. In diabetes it lessens the amount of sugar in the urine.

*Dose*— $\frac{1}{2}$  to 2 grains (0.016 to 0.13 gm.)

**Codeinæ Phosphas, B.P.**—Being freely soluble in water this salt is most suitable for hypodermic injection (1 grain in 6 minims). It produces no local irritation. Contains 70 per cent. alkaloid, and is soluble in 4 parts of water. *Dose*— $\frac{1}{2}$  to 2 grains. (0.016 to 0.13 cc.)

**Hypodermic Tablets** contain  $\frac{1}{4}$  grain each.

**Codeine and Glycerine Jelly.**—A convenient and elegant method of administering Codeine. *Dose*—1 drachm. (4 gm.).



**Lozenges** contains  $\frac{1}{2}$  grain each (0.008 gm.).

**Pastils of Codeine.**— $\frac{1}{2}$  grain each. (0.008 gm.) for cough (See page 149).

**Pilula Codeinæ Composita.**—Codeine  $\frac{1}{4}$  grain, Extract of Nux Vomica  $\frac{1}{2}$  grain, Extract of Lettuce  $\frac{1}{4}$  grain. For one pill. To be taken 3 times a day for diabetes.

**Syrupus Codeinæ B.P.**—2 grains Codeinæ Phosphate in 1 ounce. *Dose*— $\frac{1}{2}$  to 2 drachms. (1.8 to 7 cc.).

**Codeine Iodate.**—White needles slightly soluble in water, or alcohol, decomposes on keeping, assuming a brown colour from the liberation of Iodine.

**Apocodine.**—See page 50.

## COLCHICINA.

**Colchicine.**  $C_{22}H_{25}NO_6$ .—The active principle of the Meadow Saffron, *Colchicum autumnale*. A yellowish-white powder which darkens by exposure to light, soluble in water and alcohol, insoluble in ether. It acts as a diuretic and purgative, and is given in gout, rheumatism, and neuralgia. Being a cumulative poison it must be used with caution.

*Dose*— $\frac{1}{32}$  to  $\frac{1}{16}$  grain in pill (0.002 to 0.004 gm.);  $\frac{1}{32}$  grain (0.002 gm.) hypodermically.

**Hypodermic Tablets** contain  $\frac{1}{100}$  grain each.

Colchicine is the methyl ether of colchicin, and on boiling with a dilute mineral acid yields **Colchicein** or Trimethyl-acetyl-colchicinic Acid ( $C_{21}H_{27}NO_6$ ) which is a powerful poison, paralysing the brain and spinal cord.

**Colchicine Salicylate** (Colehi-Sal). *Dose*— $\frac{1}{8}$  grain (0.001 gm.). An amorphous yellow powder soluble in water, alcohol and ether, and is given in the treatment of Rheumatism and Gout.

*Antidotes.*—Opium; Tannin.

## COLLINSONIA.

**Stone-Root.**—The root of *Collinsonia canadensis*, an American plant. Has been recommended for gravel and other urinary affections. It appears to exert an alterative influence on the



mucous tissues, and has been used in relaxed conditions of the throat and vocal organs.

**Tinctura Collinsoniæ.**—1 in 10. *Dose*— $\frac{1}{2}$  to 2 drachm (1·8 to 7 cc.).

**Extractum Collinsoniæ Liquidum.**—Miscible with water. *Dose*—15 to 30 minims. (0·9 to 1·8 cc.).

## COLLODIUM, B.P.

**Collodion; Contractile Collodion.**—Pyroxylin (1) dissolved in a mixture of spirit and ether (48). A colourless, viscid liquid, which dries on exposure to the air, leaving a thin film.

**Collodium Flexile, B.P.,** Flexile Collodion.—The above with the addition of Canada Balsam and Castor Oil. Does not contract on drying.

**Collodium Vesicans, B.P.,** Blistering Collodion.

The various kinds of nitro-cellulose used for preparing Collodions are as follows:—

**Celloidin.**—Pyroxylin purified by solution in alcohol and ether. It is sold in cakes, and is used for embedding histological specimens previous to cutting sections.

**Photoxylin.**—Di-nitro-cellulose. Prepared by nitrating wood wool. Dissolved in a mixture of alcohol and ether it resembles collodion, but is said to leave a much tougher film. It is used to form artificial tympana.

The following preparations are made from Collodion; those mentioned under other heads may be found by reference to the Index:—

**Anodyne Amyl Colloid.**—See page 23.

**Hæmostatic Collodion.** (Dr. Pavesi's).—Contains Carbolic Acid 10, Tannic Acid 5, Benzoic Acid 5, in 100 parts Collodion. Applied by means of a brush, or on pieces of linen.

**Carbolic Colloid** 20 grains Carbolic Acid to 1 ounce Styptic Colloid. For tooth-ache.

**Stiptic Colloid** (Dr. Richardson's).—A combination of Collodion and Tannic Acid, useful for abrasions, fœtid wounds, and for arresting hæmorrhage. Also in veterinary practice. Applied with a brush, or mixed with an equal quantity of Ether and used as a spray.

**Collodium cum Oleo Crotonis**, 1 with 7. A counter-irritant.

**Collodium Callosum**. A mixture of Collodion Flexible, with Extract of Indian Hemp and Salicylic Acid. Used as an application for corns and warts.

**Collodium cum Iodoform**. 5 grains to 1 drachm Flexible Collodion. For venereal sores.

**Collodium Salol**.—See page 266.

**Crystallin**.—A compound of ether and methyl alcohol, a substitute for collodium. It is claimed that it evaporates more slowly than collodium and forms a more durable and pliable covering.

## CONDURANGO.

The bark of *Gonolobus condurango* (*Asclepias laccæ*), from Peru. It contains a glucoside, *Condurangin*, which acts as a nerve poison. Used as an alterative in chronic syphilis, also in cancerous diseases, for which it is said to be a specific.

*Dose*—15 to 60 grains (1 to 4 gm.).

**Tinctura Condurango**. *Dose*—10 to 60 minims (0·6 to 0·35 cc.).

**Extractum Condurango Liquidum**—*Dose*—10 to 60 minims (0·6 to 0·35 cc.).

**Vinum Condurango**. *Dose*—½ to 1 ounce (15 to 30 cc.).

## CONINA.

**Conine; Cicutine; Conicine**.  $C_4H_{17}N$ .—A volatile liquid alkaloid obtained from Hemlock, *Conium maculatum* (Umbellifere). It has a characteristic odour resembling mice, and is slightly soluble in water. Conine is dextro- $\alpha$ -propyl-piperidine, and has been prepared synthetically from  $\alpha$ -picoline.

Conine acts as a direct sedative to the respiratory centres, and is useful in neurosis and spasmodic affections of chronic bronchitis. It is very suitable in acute mania without organic brain disease, and epilepsy. In neuralgia it is recommended to be given commencing with  $1\frac{1}{2}$  grain of the Hydrobromide, but not exceeding  $4\frac{1}{2}$  grains, per 24 hours.

*Dose*— $\frac{1}{4}$  grain, carefully increased to 2 grains,

Commerical Conine contains conhydrine and methyl-conine and is not stable. The following salt is free from these impurities and more stable,

**Coninæ Hydrobromidum.**—In colourless crystals, freely soluble in water. *Dose*— $\frac{1}{2}$  grain (0.02 gm.) increased to 2 grains (0.13 gm.).

**Injectio Coninæ Hydrobromidi Hypodermica**—1 grain in 20 minims. *Dose*—1 to 3 minims (0.06 to 0.18 cc.).

**Pessaries** contain  $\frac{1}{2}$  minim Conine (alkaloid) each, with gelatine; **Pills.**  $\frac{1}{2}$  grain Hydrobromide in each.

**Unguentum Conii, B.P.**—For painful affections of the rectum and anus, as pruritus ani, piles, etc.—*Pr.*, Apr. '88,

**Vapor Coninæ.**—20 minims is put on a sponge, in a suitable apparatus, so that the vapour of hot water passing over it may be inhaled. The alkaloid from the Henlock Juice.

The use of Conine must be accompanied with great caution, owing to its paralyzing effect on the respiratory muscles.

*Antidotes.*—Emetics, followed by external and internal stimulants and artificial respiration.

## CONVALLARIA.

**Lily of the Valley.**—The entire plant of *Convallaria majalis* (Liliaceæ). Has long been used by the peasantry in Russia as a remedy for dropsy. Useful in functional and organic disease of the heart, especially in Corrigan's disease, and in dilatation of the heart, with or without hypertrophy. It is a powerful diuretic. Also recommended in chronic pericarditis, anæmia, and diabetes.

Convallaria contains two glucosides, *Convallarin*, and *Convallamarin*, as well as a principle contained in the flowers only.

**Extractum Convallariæ.** An aqueous extract.—From the entire plant, one third being roots and leaves. *Dose*—2 to 6 grains (0·13 to 0·52 gm.).

**Extractum Convallariæ Liquidum.**—From the flowers. *Dose*—2 to 10 minims (0·12 to 0·6 cc.).

**Tinctura Convallariæ, B. P. C.**—1 (flowers) in 8. *Dose*—5 to 20 minims (0·3 to 1·2 cc.).

**Convallarin.**—A pale brown glucoside, obtained from *Convallaria*. Soluble in alcohol, insoluble in water. Acts only as a purgative. *Dose*—3 or 4 grains. (0·2 to 0·26 gm.)

**Convallamarin** ( $C_{12}H_{14}O_{12}$ ).—Another glucoside obtained from the same source. Soluble in water and alcohol. Much more active than the preceding, and said to contain the active properties of the drug. It acts on the heart more slowly than *Digitalis* but its effects are more persistent. *Dose*— $\frac{1}{2}$  to 2 grains. (0·32 to 0·13 gm.)

## CORONILLIN.

A glucoside obtained from the seeds of *Coronilla scorpioides*. A light yellow powder soluble in water and alcohol. A cardiac remedy.

## COSCINIUM FENESTRATUM.

A climbing plant (*Menispermaceæ*) grows plentifully in Western India. Occurs in the form of cylindrical, woody stems of variable length, having a diameter of from 1 to 4 inches, covered with a thin pale corky bark. Yields a yellow dye resembling turmeric. The root is used medicinally, and it is said that in all cases requiring a pure bitter to use, where *Calumba* was not available, it might be resorted to with advantage. Prescribed in the form of Infusion or Tincture corresponding to the same preparations in *Calumba*.

## COTO.

**Coto Bark.**—The bark of a species of *Nectandra*, imported from Bolivia. Two varieties of bark are met with, named respectively **Coto** and **Paracoto** (the commercial 'Coto Bark' in America), having similar therapeutic properties. Recommended for cholera, diarrhœa, dysentery, gout, and rheumatism.

*Dose*—1 to 8 grains, in powder. (0·065 to 0·25 gm.)

**Extractum Coto Liquidum.**—Not miscible with water.  
*Dose*—2 to 5 minims. (0·12 to 35 cc.)

**Tinctura Coto B.P.C.**—1 in 10. *Dose*—10 minims (0·6 cc.) every 2 hours in diarrhœa.

**Cotoin.**  $C_{22}H_{18}O_3$ .—A neutral principle which exists in Coto Bark along with *Dicotoin*. A pale yellow amorphous or ery-stalline powder, slightly soluble in water, freely in ether, chloroform, alcohol, and alkalies. It checks salivation and night sweat. Hypodermically, 15 minims of a 1 in 4 solution in Acetic Ether, injected every quarter of an hour to every hour, has a specific action on the bowels in cholera. *Dose*— $\frac{1}{2}$  to 2 grains. (0·32 to 0·13 gm.)

**Paracotoin.**  $C_{19}H_{12}O_6$ .—A neutral principle found in Paracoto bark, along with *Hydrocotoine* and several others. It is in small laminar crystals, soluble in ether and chloroform, slightly so in water. Its action is similar to Cotoin, but much weaker. *Dose*— $1\frac{1}{2}$  to 3 grains. (0·01 to 0·02 gm.)

## COUMARINUM.

**Coumarin.**  $C_9H_6O_2$ .—A neutral crystalline principle occurring in Tonka beans (*Coumaruna odorata*) between the seed coating and the kernel; found also in woodruff, *Asperula odorata*, in *Anagræcum fragrans*, *Melilotus officinalis*, etc. It is now manufactured synthetically from Salicylic Aldehyde. It has an agreeable aromatic odour on account of which it is used to disguise the odour of Iodoform,—two per cent. of Coumarin being sufficient for that purpose.

## CREASOTUM, B.P.

**Creasote; Creosote; Kreosote.**—A mixture of substances of a phenolic character, chiefly creosol and guaiacol, obtained from wood tar by distillation. A colourless or yellowish liquid, with a peculiar odour. Very slightly soluble in water, freely soluble in alcohol, ether, and glacial acetic acid. Genuine Creasote is met with in two forms.—Hydrated Creasote, which does not become coloured by keeping, but makes a cloudy mixture with oil of turpentine, and Anhydrous Creasote, which mixes perfectly with turpentine, but is liable to turn brown.

Creasote preserves animal substances from decay. Externally it acts as a caustic, astringent, antiseptic, and styptic: internally as a narcotic, also for sickness, phthisis, cholera, and diabetes. As an inhalation it is very valuable in congestion of the larynx and trachea, and in ozæna, etc.

*Dose*—1 to 5 minims. (0.06 to 0.03 cc.)

**Mistura Creasoti, B.P.**—Contains about 1 minim in one fluid ounce, the taste being concealed by Juniper. *Dose*— $\frac{1}{2}$  to 1 ounce. (0.15 to 30 cc.)

In diabetes, 4 drops *per diem*, gradually increased to 10 drops, causes ultimate disappearance of sugar, which does not return even when the patient eats starchy food.—*L.*, Apr. 6, '89; *T. G.* May, '91.

Creasote is also used to render Cod Liver Oil palatable. See page 209.

**Pilula Creasoti.**—1 to 3 minims (0.06 to 0.18 cc.) in each. Should not be combined with Oxide of Silver, as there will be a tendency in such pills to take fire. For diabetes, dyspepsia, etc.

**Unguentum Creasoti, B. P.**—1 in 8. For mild cases of ringworm. For psoriasis a stronger ointment 2 in 3, is employed, but care must be taken not to apply it to the face, abdomen, etc.

**Pulvis Creasoti et Amyli.**—10 minims in 1 ounce. A dusting powder for erysipelas.

**Vapor Creasoti.**—A teaspoonful in 20 ounces of water at 140° F.

Creasote, alone or mixed with Carbolic Acid, is used to medicate respirators.

In many cases Carbolic Acid is supplied in place of Creasote, especially by native dealers who cannot distinguish between them. *Test*—Shake a little with an equal volume of glycerine, and allow to stand. Creasote will separate from the glycerine into a distinct layer, while Carbolic Acid will mix and form a more or less clear solution.

**Creosal.**—Obtained by heating equal quantities of Beech wood, Creasote and pure Tannic Acid to 178° F. and adding gradually a certain quantity of phosphorous oxychloride. Introduced as a



non-caustic astringent, for treating inflammatory conditions of the mucous membrane of the throat, lungs, etc. A deep brown, hygroscopic powder, soluble in water, alcohol, glycerine and acetone, but insoluble in ether, and aqueous solutions of so-called fatty acids. *Dose*—3 grammes at mid-day is recommended. *N. on N. Rem.* June '95.

**Creosote-calcium hydrochlorophosphate.**—A white syrupy mass consisting of a mixture of creasote carbonate and dry calcium hydrochlorophosphate. It is recommended as a cure for phthisis and scrofula. *Dose*—5 to 10 grains.

**Creosoti Carbonas.**—CREOSOTAL; A preparation which bears the same relation to beechwood creasote as guaiacol does to guaiacol carbonate. A yellowish oil of the consistency of honey, with a comparatively slight smell and taste of creasote, and with the caustic properties of the latter neutralized. Used for tuberculosis. *Dose*—5 to 20 minims (0.32 to 1.3 gm.)

**Creosoti Oleas.**—Oleo-creasote; A yellowish oily fluid said to be more easily borne than ordinary creasote, in catarrhal affections of the respiratory organs, &c. *Dose*—10 to 30 minims in emulsion. (0.6 to 1.8 cc.)

**Creosoti Phosphos.**—*Dose* 5 to 20 grains (0.32 to 1.3 gm.)

**Creosoti Valerianas (EOSOTE).**—An antiphthisic remedy and gastric intestinal disinfectant. Designed for similar use to "Geosote" or Guaiacol Valerianate. *Dose*—3 to 10 minis (0.18 to 6 cc.) in Capsules.

**Cresyl.**—A complex body containing creasote, heavy oils, 50% cresylic acid and 20% Naphthaline—A non-toxic disinfectant for external use in 5 to 10% solutions—soluble in water.

**Guaiacol.**—The methyl ether of pyrocatechin.  $\text{OH.C.H.}_4\text{OCH}_3$ . It constitutes 60 to 90 per cent. of Beech Creasote, from which it may be obtained: it is also obtained by the destructive distillation of Guaiacum Resin. A colourless liquid having a taste and odour similar to, but more agreeable than, Creasote. It is soluble in alcohol, ether, fats and oils, but only slightly soluble in water. Used as a substitute for Creasote in phthisis. It may be given in Cod Liver Oil, which disguises the taste. It should be kept in dark bottles, protected from the light. *Dose*—1 to 5 minims. (0.6 to 0.03 cc.)



**Guaiacol Carbonas** (DUSTAL.)—A definite pure crystalline compound of guaiacol. Recommended in tuberculosis and typhoid fever. Contains 91·5 % of guaiacol. *Dose*—3 to 8 grains (0·2 to 0·52 gm.) morning and evening gradually increased. In typhoid fever 15 grains morning and evening.

**Guaiacol Carboxylic Acid**—A white powder, slightly soluble in water, having an odour resembling creasote, and a bitter and astringent taste. It is a compound of Guaiacol-Sodium and Carbon Dioxide ( $\text{CO}_2$ ), and is put forward as a powerful antiseptic and antipyretic. Its action is similar to Guaiacol, and it is supposed to split up in the system, thus avoiding the nauseous taste of Guaiacol (page 117).

**Guaiacol Phosphas.** Colourless, odourless, tasteless crystals, insoluble in water, containing 90 % guaiacol. *Dose*—7 to 10 grains daily (0·46 to 0·65 gm.).

**Guaiacol Valerianas** (*Geosote*) a remedy for tuberculosis, like guaiacol itself. *Dose*—3 minim (0·18 cc.).

**Brenzcin.** Guaiacol benzyl ether. Colourless crystals, soluble in alcohol and ether, offered as a substitute for guaiacol, whose virtues it is said to possess and to be free from the caustic action that guaiacol excites on the mucous membrane. Given in similar doses. *A. M. S. B.*, 10-3-8, and *B. Ph.*, *Apl.* '98.

**Thiocol.** Potassium guaiacol-sulphonate. Contains 60 % guaiacol—Used in phthisis and similar diseases which require the creasote or guaiacol treatment. White crystals, soluble in water, taste bitter. Does not irritate the mucous membrane and is well borne. *Ph. J.* 14-1-99. *Dose* 1 to 2 grains (0·065 to 0·13 gm.).

**Guaiacetin.** A substitution product of guaiacol. A powder without disagreeable taste or odour. Useful in tuberculosis. *Dose*—8 grains (0·52 gm.).

**Guethol.** Formed from guaiacol by replacing the methyl radical with ethyl. An oily liquid soluble in ether, alcohol and chloroform. Insoluble in water and glycerin; similar in medicinal properties to guaiacol but more marked in its analgesic action. *B. Ph.* Feb. '98.

**Piperidine Guaiacolate** (Guaiperol) A compound prepared by the action of piperidine on guaiacol. Useful in phthisis. *Dose* 5 to 30 grains (0·32 to 0·2 gm.).

**Benzosol. Guaiacol Benzoas.**—Prepared from Guaiacol, and is a tasteless white powder, with a faint bitter almond odour, almost insoluble in water, soluble in ether and chloroform. It is recommended as an antipyretic and antiseptic. Best given in powder with sugar. *Dose*—4 to 12 grains. (0·26 to 0·8 gm.)

Creasote and Guaiacol have both been successfully used as antipyretics. A solution containing 20 to 30 per cent. of creasote (or one fourth the quantity of Guaiacol) in almond oil is injected hypodermically in doses of 15 to 20 minims *per diem*.—*Ph. J.* June 8, '89.

## CREOLIN.

A nostrum which goes under the names of **Liquor Antisepticus, Jeye's Disinfecting Fluid, Soluble Phenyle-** etc.

A dark brown alkaline liquid prepared from coal-tar. It forms a milky emulsion with water, and is used as an antiseptic. Being cheap, non-poisonous, and harmless to the skin, it is now largely used in place of Carbolic Acid in surgical operations.—*K.* Jan. '90 ; *H.* July '90.

*Dose*— $\frac{1}{2}$  to 5 grains in pills. (0·065 to 0·32 gm.).

**Lano-Creolin.**—5 per cent. A preparation of Lanolin and Creolin. For burns, wounds, abrasions, etc.

**Creolin Gauze.**—10 per cent. for surgical use.

**Creolin Soap.**—For use before and after operations.

**Creolin Dusting Powder.**—10 per cent. for tender skin and wounds.

**Cresol.**—See Acidum Cresylicum, page 12.

**Crealbin.**—A combination of creolin and albumen, resembling ichthalbin and tannalbin.

## CROTON TIGLIUM.

The crotons (*Euphorbeacæ*) grow wild throughout India. Croton Tiglium, the most important species is plentiful in Eastern Bengal, extending to Assam and Burma and to Ceylon. The seeds are used in India as a powerful cathartic—one seed being a full dose. **Oleum Crotonis, B. P.** A powerful drastic

purgative, should be given with great care. *Dose*— $\frac{1}{2}$  to 1 minim (0·3 to 0·06 cc.) Used externally as a powerful counter-irritant in rheumatism, gout, etc.

### CRINUM ASIATICUM, P.I.

The fresh root (*Crini Radix*). (Amaryllidaceæ) Bulbous, with an unpleasant narcotic odour. Readily dried and reducible to powder after desiccation. The expressed juice of the fresh bulb is a useful emetic, in small doses diaphoretic. Its therapeutic uses are analagous to those of squill. The *juice* and *syrup* are official in the P. I.

### CURARA.

**Curare; Ourari; Wourara.**—A resinoid extract, used as an arrow-poison by the natives of South America, and obtained from various species of *Strychnos* and *Cocculus*. A blackish brittle extract, almost entirely soluble in water. Strongly toxic when injected under the skin.—*Ring*. Taste bitter.

Useful for tetanus, for which, in adults, as much as 4 grains may be given with safety, hypodermically, during the 24 hours. It is also acts as a palliative in hydrophobia in which  $\frac{1}{4}$  to  $\frac{1}{2}$  grain given every half hour will effect a cure. It is also useful in severe convulsive affections.

*Dose*— $\frac{1}{20}$  to  $\frac{1}{2}$  grain (0·0032 to 0·032 gm.)

**Injectio Curare Hypodermica, B. P. C.**—5 grains in 30 minims. *Dose*—1 to 6 minims (0·06 to 0·35 cc.)

**Hypodermic Tablets.**— $\frac{1}{12}$  grain each.

**Curarina.** Curarine.—The active principle of curare. A yellowish-brown deliquescent powder, very poisonous when given hypodermically. Like strychnine, it gives with sulphuric acid and bichromate of potassium the blue, violet, and red colours, but, unlike strychnine, sulphuric acid alone gives a red colour. This test is a useful means of distinguishing the two in toxicological research.

### CUPROHŒMOLUM.

A dark chocolate coloured powder containing 2 per cent. metallic copper. Said to increase the quantity of hæmoglobin, in the blood, besides increasing the weight of the body.

*Dose*—2 to 8 grains (0·13 to 0·52 gm.) 3 times daily.

## CURCAS.

**Physic Nut.**—The seeds of *Jatropha Curcas* (*Curcas purgans*). Euphorbiaceæ,—a tree common in India. They yield about 3) per cent. of a colourless or slightly yellow fixed oil, with an almond-like taste, which is a powerful purgative. It differs from castor oil in being very slightly soluble in alcohol. 12 to 15 drops have a purgative effect similar to one ounce of castor oil, but it is not so uniform in its action. The oil is also used diluted as an embrocation in rheumatism, and a cataplasm of the leaves is employed externally to increase the secretion of milk.—*P. I.* p. 203.

The action of both seeds and oil is very uncertain being acrid and emetic, and have been known to be poisonous. The active principle of the oil has been named *Jatrophic Acid*. In addition to the purgative properties mentioned above, the oil is applied in itch, herpes, and eczema. The milky juice which renders from the stem is applied to wounds as a hæmostatic and forms a protecting film, in the same manner as collodion.—*Dey*.

**CUTOL.**—See page 35.

## CYPRIPEDIN.

The dried extract of the root of *Cypripedium pubescens*. Ladies' slipper. For nervous affections. *Dose*—1 to 3 grains.—(0·065 to 0·2 gm.)

## DAMIANA.

The leaves of *Turnera aphrodisiaca* (Turneraceæ), a Mexican shrub. A nerve tonic and stimulant of great value in spermatorrhœa, sexual debility, also in paraplegia and hemiplegia. It has the advantage over phosphorus and strychnine of being non-poisonous.

**Extractum Damianæ Liquidum.**—*Dose*—1 to 2 drachms. (3·5 to 7 cc.)

**Aphrodisiac Pills, No. 1.**—Each pill contains—

Phosphorus	...	...	...	$\frac{1}{100}$	grain.
Extract of Nux Vomica	...	...	...	$\frac{1}{6}$	grain.
Extract of Damiana (solid)	...	...	...	2	grains.

*Dose*—One pill twice or three times a day.

**Aphrodisiac Pills, No. 2.**—Same as the preceding with the addition of Extract of Coca  $1\frac{1}{2}$  grain, and Reduced Iron 1 grain.

**DATURINA.**—See page 57.

### DEXTROFORM.

A compound of Dextrin and Formaldehyde. Introduced as an aseptic. Dissolves in water and glycerine, and has been used in gonorrhœa.

**DIABETINE.**—See Lævulose, page 264.

### DIAPHTHERIN.

**Oxychinaseptol.**—A coal tar product, in yellow crystal or powder, soluble in water—A non-poisonous antiseptic.

### DIAPHTHOL.

(Ortho-oxychinolin-meta-sulphonate).—Diaphthol or, as it is sometimes called, **Chinaseptol** occurs in whitish yellow crystals, sparingly soluble in cold water. Ferric chloride gives a beautiful green colour with even a small quantity of the diaphthol, and by this reaction its presence in the urine can be easily detected. Diaphthol apparently possesses the same therapeutical actions as Loretin with which it also stands in close chemical relation.

### DIGITALINUM.

**Digitalin.**—The active principle of Fox-glove, *Digitalis purpurea*. Under this name several substances are met with, which differ considerably in their properties, both medicinal and physical.

1. *Homolle's*—An amorphous powder, slightly soluble in water, soluble in alcohol and chloroform. It is a mixture of Schmiedeberg's Digitalin with Digitoxilin. Homolle's *Granules de Digitaline* contain 1 milligramme ( $\frac{1}{100}$  grain) each, equal to about  $1\frac{1}{2}$  grains *Digitalis* leaves.

2. *Naturelle's Crystallised Digitaline.*—In light crystalline tufts, insoluble in water, soluble in chloroform, consist almost entirely of Digitoxin. Cumulative in action. Dispensed only when 'crystals' are ordered. More constant in composition than the others.—*Dose*— $\frac{1}{200}$  to  $\frac{1}{50}$  grain (.00025 to .001 gm.)

3. *Schmiedeberg's Digitalin*.—Crystalline and insoluble.

4. *Schmiedeberg's Digitalein*.—Amorphous, soluble in water, and suitable for hypodermic use. Non-cumulative.

Digitalin is given in heart disease with rapid weak pulse, and in cardiac dropsy. Also useful in delirium tremens, spermatorrhœa, and hæmorrhage.

*Dose*.— $\frac{1}{80}$  to  $\frac{1}{30}$  grain. (.001 to .0022 gm.)

**Hypodermic Tablets**.— $\frac{1}{100}$  grain each.

*Antidotes*.—Tannin, emetics, stimulants, and recumbent posture; Aconite.

**Digitoxin**.—A cumulative poison, much more powerful than Digitalin. In crystals, insoluble in water, slightly soluble in ether. *Dose*.— $\frac{1}{250}$  to  $\frac{1}{80}$  grains. (0.00025 to 0.001 gm.)

**Digitonin**. A glucoside; according to Hondas' a form of digitalein.

## DIONIN.

A new derivative of morphine (ethyl-morphine-hydrochlorate) A white crystalline powder with a bitter taste, soluble in water and alcohol. Useful in the irritable cough of phthisis and bronchitis. The dose is stated to be  $\frac{1}{4}$  to  $\frac{1}{2}$  grain (0.016 to 0.032 gm.) several times a day.

**DITHION**.—See Sodii Dithosalicylas, page 276.

**DIURETIN**.—See page 292.

## DROSERA.

The leaves of the Sundew, *Drosera rotundifolia*, have been recommended in asthma, bronchitis, pertussis, and incipient phthisis. Sundew has also been recommended for gastric disorders, especially as a relief for flatulence.

**Tinctura Droseræ**.—1 in 10. *Dose*.—5 to 10 minims (30.0 to 0.6 cc.)

## DUBOISINÆ SULPHAS.

The sulphate of an alkaloid obtained from Pituri. *Duboisia myoporoides*. Amorphous, hygroscopic, very soluble in water. A sample of the alkaloid examined by Ladenberg was shown to be identical with Hyoseyamine. Since then, however, the same



chemist has examined another sample which he states to be identical with Hyoscine. It has also been stated that Hyoscine is most probably a conversion product of Hyoseyamine, being found in the mother liquor of that alkaloid as well as of Duboisine. It would appear that Duboisine consists of one or other of these two bases, or a mixture of both, according to its method of preparation.

*Dose*— $\frac{1}{120}$  to  $\frac{1}{30}$  grain. (0·0005 to 0·002 gm.)

**Gutta Duboisinæ Sulphatis.**—1 grain to 1 ounce for the eyes.

*Antidotes.*—Emetics; Chloral Hydrate; Pilocarpine.

## DUODINE.

Prepared from the duodenum of the ox for administration in impaired nutrition and emaciation.

## ELATERIUM, B.P.

A hydragogue cathartic. *Dose*— $\frac{1}{10}$  to  $\frac{1}{2}$  grain. (0·0065 to 0·32 gm.)

**Tinctura Elaterii Composita.** *Dose*—10 to 30 minims. (0·06 to 1·8 cc.)

**Elaterinum B.P.**—Elaterin Momordicin.—The neutral active principle of elaterium, insoluble in water, soluble in chloroform. *Dose*— $\frac{1}{10}$  to  $\frac{1}{10}$  grain. (0·0016 to 0·0065 gm.)

**Pulvis Elaterini Compositus B.P.** *Dose*—1 to 5 grains. (0·065 to 0·32 gm.)

## EMBELIA.

**Vai-Vairung.**—The berries of *Embelia ribes* (Myrsinacæ) an Indian tree, very common about Bombay.

Have been used in India as a remedy for tapeworm. The fruit is about the size of a pepper-corn, and has an aromatic taste. *Embelic Acid* has been isolated, but it is not known whether or not this is the active principle. The administration of *Embelia* is said to heighten the colour of the urine.

*Dose*—1 to 4 drachms, in the early morning fasting, followed some hours later by a purgative dose of castor oil.

**Embelic Acid.**—An acid extracted from *Embelia ribes*, a plant belonging to the Myrtacæ. Small orange red crystals, soluble in alcohol, insoluble in water. Used as a remedy for tapeworm.—B. & C.D., Mar. 2, '94.



## EMBLICÆ FRUCTUS.

**Emblie Myrobalan Fruit.**—The fruit of *Phyllanthus emblica* (Euphorbiaceæ), common in India. When fresh it consists of a fleshy pulp, having an acidulous somewhat acid taste, and enclosing a triangular nut. Contains a considerable quantity of sugar. The fresh fruits are refrigerant, diuretic, and laxative; the dried fruits are astringent. In Europe they are sold preserved in syrup or crystallised in sugar, and used as a laxative, especially for children.

*Dose*—One, two, or more as required.

**Confectio Emblicæ.**—*Dose*—1 or 2 teaspoonfuls.

**EMETINA.**—*See* page 182.

**EOSOTE.**—*See* page 117.

## ENTEROL.

A mixture of the three isomeric, chemically pure cresols. A colourless strong smelling fluid. In gastric and intestinal troubles Enterol acts as a strong antiseptic on the products of decomposition in the intestines, if the latter have previously been cleaned. 1 in 5,000 dilution is said to be non-poisonous; of this solution 16 to 80 minims (1 to 5 cc.) may be given daily.

## ERGOTA, B.P.

**Ergot of Rye: Secale Cornutum.**—The sclerotium of a fungus, *Claviceps purpurea*, which attacks and entirely replaces the grain of the common rye, *Secale cereale*. Should be carefully stored, as it is very liable to deteriorate owing to oxidation of the oil contained in it, as well as the attacks of insects.

A valuable hæmostatic, given in hæmoptysis, epistaxis, hæmatemesis, etc. Has particular effect on the uterus, causing powerful and continuous contractions, and is used in tedious labours when the uterus is becoming exhausted, but must be administered with certain precautions.—*Ring*. Particularly useful in post-partum hæmorrhages.

*Dose*.—20 to 60 grains in infusion (1·3 to 4 gm.)

*Official Preparations.*—*Extractum Liquidum.* *Dose*—10 to 30 minims (0·6 to 1·8 cc.) *Infusum*, 1 in 20. *Dose*—1 to 2 ounces (30 to 60 cc.)

**Extractum Ergotæ, B. P.**—Ergotin, a purified solid or semisolid Extract of Ergot. *Dose*—2 to 8 grains (0·13 to 0·52 gm.)  
*The method of extraction is now changed.*

**Injectio Ergotini Hypodermica, B. P.**—1 grain to 2 minims. Should be freshly prepared or may be preserved by means of Carbolic Acid. *Dose*—3 to 10 minims (0·18 to 0·6 cc.)  
 An injection (1 in 1,000) is recommended for gonorrhœa—*M. R.*, Aug. '91.

**Pilulæ Ergotini** (Gelatine coated). 3 grains each. *Dose*—One or two pills.

**Pilulæ Ergotini Compositæ** (Gelatine coated).—Contain in each pill—

Ergotin	...	...	...	...	1 grain.
Dried Sulphate of Iron	...	...	...	...	1 grain.
Extract of Hellebore	...	...	...	...	1 grain.
Extract of Socotrine Aloes...	...	...	...	...	1 grain.
Oil of Savin	...	...	...	...	$\frac{1}{2}$ minim.

**Pilulæ Ergotini cum Quinina.**—Ergotin  $2\frac{1}{2}$  grains. Quinine  $1\frac{1}{2}$  grain, in each.

**Liquor Ergotæ Ammoniatus.**—1 in 1. Exhausted with ammoniated spirit. *Dose*—10 to 60 minims (0·6 to 3·5 cc.)

**Tinctura Ergotæ Ammoniata, B. P.**—1 in 4 with Solution of Ammonia. *Dose*—30 to 60 minims (1·8 to 3·5 cc.)

*The old Tincture of Ergot is now omitted and this is intended to replace it.*

Ammonia has been found not only to exhaust the drug more thoroughly, but to make a more uniform and stable preparation, besides improving its therapeutic effect.

**Liquor Ergotæ Aceticus.**—1 in 1. Extractum Ergotæ Fluidum U. S. An acid solution, not much used. *Dose*—10 to 60 minims (0·6 to 3·5 cc.).

**Cornutine**, an alkaloid which Kobert states is stable, and possesses all the therapeutic properties of Ergot. The **Hydrochloride** and **Citrate of Cornutine** are more soluble. *Dose of each*— $\frac{1}{2}$  grain (0·01 gm.) daily. The following preparation represents Ergot in its most active form:—

**Extractum Secalis Cornuti** (Kobert).—Prepared by first removing the fatty oil by ether, then exhausting the drug with rectified spirit, and evaporating to an extract. *Dose*—Not fixed. Kobert maintains that if prompt action be required, no preparation is equal to freshly powdered Ergot.—*C. & D.*, Oct. 18, '90.

**Acidum Scleroticum**—Sclerotic or Sclerotinic Acid, Ergotic Acid.—A weak acid obtained from Ergot by Dragendorff, and claimed by him to be the most active constituent. A brown and very hygroscopic powder, soluble in water. *Dose*— $\frac{1}{2}$  to  $\frac{3}{4}$  grain, hypodermically (0.032 to 0.05 gm.).

**Injectio Acidi Sclerotici Hypodermica**.—1 grain in 6 minims. *Dose*—3 to 5 minims (0.18 to 0.30 cc.). Should be used fresh or preserved by adding 1 per cent. Carbolic Acid. This is preferable to Ergotin, as it causes no inflammation at the seat of puncture.

**Hypodermic Tablets** contain  $\frac{1}{2}$  and 1 grain.

**Ergotinina, Ergotinine**.—An alkaloid obtained from Ergot, in small white crystals, insoluble in water, soluble in ether, chloroform, and alcohol. Given hypodermically, dissolved in Lactic Acid, for post-partum hæmorrhage. *Dose*— $\frac{1}{200}$  to  $\frac{1}{100}$  grain (0.00032 to 0.016 gm.)

**Hypodermic Tablets** contain  $\frac{1}{200}$  and  $\frac{1}{100}$  grain.

**Ergotinina Citras**.—A soluble salt of Ergotinine. Suitable for hypodermic injections. *Dose*— $\frac{1}{200}$  to  $\frac{1}{100}$  grain (0.00043 to 0.0022 gm.)

**Spasmodin**.—Spasmodotoxin. A poisonous element of ergot, isolated by Dr. Jacobi. A yellow amorphous powder, insoluble in water, dilute acids and petroleum ether; easily soluble in ether and alcohol. Spasmodin forms salts with alkalis. Doses employed have been from  $\frac{2}{3}$  to  $1\frac{1}{2}$  grain, but definite Therapeutic data are yet wanting.—*A. M. B. S.*, June 15, '94.

## ERYTHOL TETRANITRATE.

**Erythrite Tetranitrate**.—Tetranitritin.—A colourless crystalline solid, slightly soluble in water, readily so in alcohol and ether. It is a vaso-dilator like nitro-glycerin and amyl nitrite, with less marked but more prolonged action. *Dose*— to 1 grain (0.032 to 0.065 gm.)

## ERYTHROPHLŒUM.

**Casca Bark; Sassy Bark.**—The bark of *Erythrophlœum guineense* (Leguminosæ). It is a powerful poison, being used as an ordeal bark in West Africa. Its action is that of a heart-tonic, and is said to resemble Digitalin and Picrotoxin combined. Its active principle is an alkaloid, *Erythrophlœine*.

**Tinctura Erythrophlœi, B.P.C.**—1 in 10. *Dose*—5 to 10 minims (0.3 to 0.6 cc.)

**Extractum Erythrophlœi Liquidum.**—Not miscible with water. *Dose*—5 to 15 minims (0.30 to 0.9 cc.).

**Erythrophlœine Hydrochloridum.**—In whitish crystals, soluble in water. Given in mitral disease and cardiac dropsy. Said to be more powerful than Digitalin.—*Dose*— $\frac{1}{16}$  to  $\frac{1}{8}$  grain (0.0016 to 0.0027.)

**ESERINE.**—See page 237.

## ETHIDENI DICHLORIDUM.

**Dichloride of Ethidene; Ethylidene Chloride; Mono-chlorethyl Chloride; Chlorinated Chloride of Ethyl, CH<sub>3</sub>, CHCL<sub>2</sub>.**—A colourless liquid, resembling chloroform in taste and odour. Boils at 135° to 150° F.; sp. gr. 1.18 to 1.20. Obtained as a by-product in the manufacture of chloral also by heating aldehyde with phosphorus pentachloride. It is isomeric with Ethylene Chloride (CH<sub>2</sub>Cl. CH<sub>2</sub>Cl.) or 'Dutch Liquid,' but has a lower boiling point and sp. gr. than the latter. Freely miscible with alcohol, ether, and chloroform, and soluble 1 in 300 in water.

Recommended as an anæsthetic in place of Chloroform, being much safer, though more costly.—*M.*

Ethidene is not less dangerous to life than Chloroform. Several deaths have occurred, so that it seems hardly justifiable to employ this agent.—*Ring.*

**ETHYL CHLORIDE.**—See page 27.

## ETHOXYCAFFEINE.

Prepared by treating caffeine with bromine in excess, then adding to an alcoholic solution the resulting monobrom caffeine,

freed from excess of bromine, metallic sodium in small fragments sufficient to combine with the bromine, and boiling. In small white needles, best given in alcoholic solutions. *Dose*—1 to 4 grains (0·065 to 0·26 gm.)

**EUCAINE.**—See page 108.

## **EUCALYPTUS.**

**Eucalypti Folia.**—The dried leaves of *Eucalyptus globulus* (Myrtaceæ), Australian blue gum-tree. Cultivated chiefly in India on the Nilgiris. Employed in ague, malarial fevers, bronchitis, and also smoked for asthma. An infusion of the leaves, given in teaspoonful doses every 2 hours, has proved very valuable in remittent fever and the later stages of typhoid.—*L.*, Dec. 13, '90. They owe their medicinal properties to the volatile oil, no alkaloidal principle having been found. *Dose*—5 grains or more (0·32 gm.)

**Tinctura Eucalypti Foliorum, B.P.C.**—1 in 5  
*Dose*—15 minims to 2 drachms (0·9 to 7 cc.).

**Extractum Eucalypti Fluidum, U.S.P.**—Not miscible with water. *Dose*—10 to 60 minims (0·6 to 3·5 cc.).

**Oleum Eucalypti, B.P.**—The oil distilled from the fresh leaves of *Eucalyptus amygdalina*, also *E. globulus*, *E. olosa*, and probably other species. A colourless or pale straw-coloured liquid with an agreeable camphoraceous odour. Sp. gr. 0·910 to 0·930. The oils as obtained from the different species vary both in character and composition. The *amygdalina* and *globulus* oils may be distinguished as follows :—

*E. amygdalina* oil.—Sp. gr. below ·900 (·880 to ·890); lævo-rotary; contains no Eucalyptol (or a very small amount), but contains Phellandrene as its principal constituent.

*E. globulus* oil.—Sp. gr. above ·900 (·915 to ·925); dextro-rotary; contains Eucalyptol and no Phellandrene.

The oils may be readily recognised by dissolving a sample in twice its volume of glacial acetic acid, and adding a solution of nitrite of sodium; an *Amygdalina* oil will solidify owing to the formation of Phellandrene Nitrite, while a *Globulus* oil will turn green, but not otherwise change.

*Eucalyptus* oil is a powerful antiseptic, while, unlike carbolic acid, it is non-poisonous and does not irritate the skin or mucous

membrane. Internally it is given for the same purposes as the leaves ; it is also used as a spray and an inhalation, and externally as a rubefacient. It is almost insoluble in water, but freely soluble in alcohol and oils. It may be emulsified by means of gum acacia. No investigation has yet been made as to the therapeutic values of the various oils ; in fact, the oil as generally met with appears to be a mixture of the various varieties. Under the name of **Eucalyptia** or **Eucalyptine** (an unsuitable name for an oil) a preparation is sold, purporting to be distilled from *E. globulus* alone, without admixture of any other variety. *Dose* of Eucalyptus oil,  $\frac{1}{2}$  to 3 min. (0·03 to 0·18 cc.)

**Eucalypteol**—(Eucalyptene Hydrochloride)  $C_{20}H_{40}(CHL)_2$ .—In white lamellæ resembling mother-of-pearl. Insoluble in water or glycerine, easily soluble in alcohol, ether, chloroform, &c. Given in bronchitis, phthisis, typhoid fever, and diarrhoea. *Dose*—2 to 6 grains (0·13 to 0·4 gm.)

**Carbasus Eucalypti**—Eucalyptus Gauze.—Contains about 6 per cent.

**Cremor Eucalypti Compositus**.—An emulsion containing 50 per cent. of Cod Liver Oil and 5 minims Oil of Eucalyptus per drachm. A valuable combination for phthisis, in which Oil of Eucalyptus has been said to have a specific action. The Eucalyptus also so completely masks the taste of the Cod Liver Oil that patients are often unaware that this is one of the ingredients. *Dose*—1 to 2 drachms (4 to 8 gm.)

**Eucalembroth Gauze**.—See page 165.

**Eucalyptus Sawdust**.—1 in 9. Useful for deodorising the atmosphere of a sick-room.

**Eucalyptus Wool**.—5 per cent.

**Unguentum Eucalypti, B.P.**—1 in 5.

**Vapor Eucalypti**.—40 minims to one ounce with Light Carbonate of Magnesia. 1 drachm in a pint of water at 140° F to be used.

**Eucalyptus Smelling Salts**.—For influenza and nasal catarrh.

**Iodoform and Eucalyptus Preparations**.—See page 175.



**Eulylyptol or Eulyptol.**—A combination of Oil of Eucalyptus with Carbolic and Salicylic Acids. Recommended as a surgical antiseptic, and as a remedy for rheumatism and catarrh.—*C. & D.*, Jan. 11, '90; *Ph. J.*, Oct. 30, '86.

**Eucalyptol (Cineol).**—That portion of Eucalyptus Oil which in distilling passes over between  $348^{\circ}$  and  $352^{\circ}$  F. The oil is treated with Caustic Potash and Chloride of Calcium, and distilled. A colourless liquid with a camphoraceous odour, which does not form a resinous coating on drying. It appears to be identical with *Cineol* which is obtained from oil of cajeput and other oils. Several varieties of Eucalyptol are met with, but many of them are nothing more than well rectified Eucalyptus Oil, containing lighter boiling portions which are irritating to the respiratory organs. Pure or *Crystallisable* Eucalyptol is a definite chemical substance ( $C_{10}H_{18}O$ ) obtainable from the Oil of *E. globulus*, by a process of freezing. It solidifies at  $32^{\circ}$  F. to long colourless needles, has a sp. gr. of 0.930, and is optically inactive. The Eucalyptol obtained from *E. amygdalina* consists almost entirely of *Phelandrene* ( $C_{10}H_{18}$ ).

**Eucalyptus Honey.**—Said to be produced in Australia by a small black bee which feeds on the flowers of the Eucalyptus tree. Recommended as a valuable remedy in phthisis, as a bactericide, and in diseases of the kidneys and bladder. The statement as to its source has been contradicted, some authorities maintaining that it is simply a mixture of honey and Oil of Eucalyptus. Probably there are both a genuine and imitation article.—*Ph. J.*, Dec. 13, '90.

## EUCALYPTI GUMMI, B.P.

**Gummi Rubrum;** Red Gum.—An exudation from the bark of *Eucalyptus rostrata*, and other species, imported from Australia. A garnet-coloured gum, soluble in water, intensely astringent, and adheres to the teeth when chewed. A valuable astringent in diarrhoea, dysentery, relaxed throat, etc. Must not be confounded with Australian or Botany Bay Kino, obtained from *E. resinifera*, which is resinous and scarcely soluble in water.

*Dose*—2 to 5 grains (0.13 to 0.32 gm.)

**Decoctum Eucalypti Co.**—1 in 40. *Dose*—2 to 4 drachms (7 to 15 cc.)



**Extractum Gummi Rubri Liquidum.**—A valuable astringent for hæmorrhage. Stops bleeding of the nose if injected into the nostril. *Dose*—30 to 60 minims (1·8 to 3·5 cc.)

**Syrupus Gummi Rubri.**—*Dose*—30 to 60 minims (1·8 to 3·5 cc.); for dysentery it may be combined with Liquid Extract of Bael.

**Tinctura Gummi Rubri.**—1 in 4. Miscible with water. One part to 7 of water, with Syrup of Lemons, forms a good astringent gargle. *Dose*—20 to 40 minims (1·2 to 2·4 cc.)

**Trochisci Gummi Rubri.**—1 grain each (0·065 gm.) for relaxed throat.

**Trochisci Eucalypti Compositi.**—Contain Chlorate of Potash, Cubebs, and Eucalyptus Gum, and are stamped C. E.

### EUCASIN.

Described as a casein-ammonium compound, contains 95·65% of absorbable albumen. Used as a food. Said to have marked nutritive value.—*B. Ph.*, May '98.

### EUCHLORIN.

A name given to a solution of 18 to 30 grains potassium chlorate with 10 drops hydrochloric acid and 8 ounce of water. Used for diphtheria, as spray, gargle and paint.—*A. M. S. B.* May 15, '94.

### EUGENOL.

**Eugenic Acid.**  $C_{10}H_{12}O$ .—A colourless oil, occurring in oils of cloves, pimento, etc., and obtained from the former by treatment with caustic potash, distilling off the terpena, and separating the Eugenol from the residum by means of an acid. It has an odour of cloves, becomes brown by exposure to the air, and is soluble in alcohol, very slightly so in water, and forms salts with caustic alkalies.

A powerful antiseptic, said to be more powerful than carbolic acid. It is used by dentists on account of its agreeable odour. It has also been recommended as a febrifuge, but is inferior to quinine in this respect. Combined with Lanolin, it is useful in eczema.

*Dose*.—15 grains in 24 hours, dissolved in spirit and diluted with water.

**Eugenolacetamid.**—The amide of eugenolacetic acid, forming a fine crystalline powder, crystallising from alcohol and water. Recommended as a local anæsthetic as a substitute for cocaine, and also as an antiseptic for the treatment of wounds.

## EUONYMI CORTEX, B. P.

**Wahoo Bark.**—The dried root-bark of *Euonymus atropurpureus* (Celastraceæ) or spindle tree. Valuable as a hepatic stimulant, also tonic, alterative, and laxative. Its preparations are best given combined with a purgative, or followed in the morning by a saline aperient. Rutherford describes the extractive *Euonymin* as a powerful hepatic, but feeble intestinal stimulant.

**Extractum Euonymi, U. S. P.** (Solid).—*Dose*—5 to 15 grains.

**Extractum Euonymi Liquidum.**—Not miscible with water. *Dose*—20 to 60 minims, (0·6 to 3·5 cc.).

**Tinctura Euonymi, B. P. C.**—1 in 5. *Dose*—10 to 40 minims, (0·6 to 2·4 cc.)

**Extractum Euonymi Siccum, B. P.**—Dry Extract of *Euonymus*, **Euonymin.**—*Sq.* The most convenient and generally used preparation of the bark. *Dose*—1 to 2 grains. (0·65 to 0·13 gm.)

**Pilulæ Euonymin.**—1 to 2 grains each. A convenient means of administering *Euonymin* as a cholagogue.

Liquid preparations containing **Euonymin with Pepsin**, also with **Bismuth**, and **Cascara Sagrada**, are sold as proprietary remedies.

**EUPHORINE.**—See page 300.

## EUPHORBIA PILULIFERA.

A common Australian plant, collected when in flower and carefully dried. It is identical with *Euphorbia hirta*, a plant very common about Bombay. Recommended for coughs, bronchial affections, and diseases of the respiratory tract generally. The

fluid extract has been strongly recommended as a specific for asthma, and also as a remedy in acute and chronic dysentery. Used by the natives of India as a vermifuge.

**Decoctum Euphorbiæ Piluliferæ.**—1 in 40. *Dose*—2 ounces twice daily. (60 cc.).

**Extractum Euphorbiæ Piluliferæ.** *Dose*— $\frac{1}{2}$  to 1 $\frac{1}{2}$  grain. (0.632 to 0.1 gm.)

**Extractum Euphorbiæ Piluliferæ Liquidum.**—Not miscible with water. *Dose*—10 to 30 minims (0.6 to 1.8 cc.).

**Tinctura Euphorbiæ Piluliferæ, B.P.C.**—1 in 5. *Dose*—10 to 30 minims (0.6 to 1.8 cc.)

### EUPHTHALMINE.

A new mydriatic, derived from amygdalic acid, and is said to bear the same relationship to Eucaine that Homatropine does to Tropacocaine. Two or three drops of a 2 per cent. solution is followed in about twenty minutes by a marked mydriasis, which disappears completely in from 2 to 3 hours. Its use is painless.

**Euphthalmine Hydrochloride**, and **Euphthalmine Salicylate** are also made. The former is a stable white crystalline product readily soluble in water. *V. B.* 1898.

### EURYBIN.

A glucoside from *Eurybia Moschata*, one of the compositæ of New Zealand. An amorphous bitter powder, pale yellow, soluble in water and spirit. *B. & O. D.*, Feb. 9, '94.

### EXACUM BICOLOR.

A plant belonging to the Gentianaceæ, the root of which has properties resembling Gentian. The dried plant is sold as country chiretta and possesses tonic and stomachic properties.

### EXALGIN.

**Exalgine; Methylacetanilide.**  $C_6H_5 \cdot CH_3 \cdot NHCH_3$  CO.—A benzene derivative, allied to phenacetin. In colourless needles or tablets, with a slightly bitter taste, soluble 1 in 60 of cold water, more so in hot water, and freely in dilute alcohol.

A valuable analgesic, also antipyretic and antiseptic but in less degree.\* Its physiological action is allied to Antipyrin, but the analgesic effect is more, and the antipyretic effect less marked than in the latter. It is very useful in neuralgia, causing no ill effects such as cyanosis or rash. As an analgesic in small doses ( $\frac{1}{2}$  to 1 grain, not exceeding 14 grains in 24 hours) it was tried in 88 cases, 67 being successful.—*B. M. J.*, Feb. 15, '90; *Ph. J.*, Mar. 1 '90; *K.*, Jan. and July, '90; *N. B.*, '89, 203. It is also said to decrease the amount of urine secreted, and of sugar in diabetes. Also suggested for influenza. *Dose*— $\frac{1}{2}$  to 1 or 2 grains (0.032 to 0.13 gm.)

**Granular Effervescent Exalgine.**—8 grains in each ounce flavoured with vanilla. *Dose*—1 drachm.

**Mistura Exalgin.**—1 in 96, flavoured with orange. *Dose*—2 to 4 drachms (7 to 15 cc.)

Exalgine is difficult to dispense owing to its insolubility in water, and the inability of a small quantity of alcohol to keep it in solution. 30 grains of Exalgine may be dissolved in  $1\frac{1}{2}$  ounce water by the aid of heat; if, after solution has been effected, 2 drachms of rectified spirit be added at once, a permanently clear solution is the result.—*Ph. J.*, Nov. 29, '90.

## FERROSTYPIN.

A proposed substitute for Ferric Chloride, over which it possesses the advantage of not being caustic. A yellow powder soluble in water. The aqueous solution coagulates on boiling, even if rendered acid. An excess of acid dissolves the precipitate first formed.—*B. & C. D.* Aug. 21, '96.

## FERRUM, B.P.

**Iron, Fe.**—Annealed Iron wire, being the purest form that can be obtained, is recommended in the *B.P.* for making the preparations of Iron. Iron filings are not trustworthy.

\* It has been noticed that the constitution of these coal-tar derivatives bears a close relation to their therapeutic effect. For instance, antiseptics are represented by alcoholic hydrated derivatives, as Phenol, Naphthol, etc., antipyretics by amidogen derivatives, as Acetanilid, Kairin, etc., while the substitution of an atom of hydrogen by a fatty radicle, especially methyl, develops analgesic properties to the extent of the substitution, as in Antipyrin Phenacetin and Exalgine.—*Ph. J.*, Mar. 30, '89.

The preparations of Iron are astringent and stimulant, the organic salts being less so than the inorganic, while of the inorganic the Ferric salts are more powerful in this direction than the Ferrous salts.—*Ring.* The astringency of Iron salts renders its advisable to prescribe them in conjunction with some laxative, as aloes or cascara sagrada. As the salts of Iron discolour the teeth they are best given in the form of pill, and should not be used as tropical agents in diseases of the mouth.

The official preparations containing metallic iron are:—

Ferrum Redactum and Trochisci Ferri Redacti; Mistura Ferri Aromatica; Vinum Ferri.

**Extractum Pomi Ferratum**, Ferrated Extract of Apples.—Iron wire digested in the pulp of sour apples. *Dose*—3 to 10 grains (0.2 to 0.65 gm.)

**Tinctura Ferri Pomata, P. G.**—1 of the Extract in 10 *Dose*—15 to 30 minims (0.9 to 1.8 cc.)

**Malate of Iron Wine** is made in England by digesting Iron Wire in cider. *Dose*—A wineglassful 3 times a day.

**Ferri Malas.**—Given with salicylates for sub-acute rheumatism. *Dose*—1 to 3 grains (0.065 to 0.02 gm.)

**Ferri Acetatis Liquor.**—*Dose* 5 to 15 minims (0.3 to 0.9 cc.)

**Tinctura Ferri Acetatis, B. P. 1885.** *Dose*—5 to 30 minims (0.3 to 1.8 cc.)

**Tinctura Ferri Acetici Ætherea, U. S. P.**—Contains Acetic Ether. *Dose*—10 to 20 minims (0.6 to 1.2 cc.)

**Ferri Albuminas**, Albuminate of Iron—In scales soluble in water. Given in anæmia and gastric ulcer, and said to be more readily absorbed into the system than other salts of Iron. *Dose*—3 to 10 grains (0.2 to 0.65 gm.)

**Liquor Ferri Albuminati.**—*Dose*—1 to 4 drachms (3.5 to 15 cc.)

**Liquor Ferri Peptonati.**—Similar to the last, the Albumen being previously digested with Pepsin. *Dose*—1 to 4 drachms (3.5 to 15 cc.)

**Liq. Ferri Peptonati c Quinina.**—Containing  $\frac{1}{2}$  per cent. Hydrochloride of Quinine. *Dose*—1 to 4 drachms (3.5 to 15 cc.)

**Liquor Ferro Manganesii Peptonati**.—Contains 0·1 per cent. Manganese. *Dose*—1 to 4 drachms (3·5 to 15 cc.)

**Ferri Arsenas, B. P.**.—Arsenate of Iron with some oxide. A greenish, tasteless, amorphous powder, insoluble in water, soluble in hydrochloric acid. Properties similar to Arsenious Acid. *Dose*— $\frac{1}{16}$  to  $\frac{1}{4}$  grain (0·004 to 0·016 gm.)

**Pilula Ferri Arsenicalis**.—See page 56.

**Ferri Benzoas**.—Recommended for scrofula, either alone or with Cod Liver Oil. *Dose*—10 to 15 grains (0·65 to 1 gm.) 3 times a day.

**Ferri Bromidum**.—A greyish-white deliquescent salt which soon becomes brown on exposure to the air, owing to conversion into oxybromide. Useful as a tonic and sedative combined. *Dose*—3 to 10 grains (0·2 to 0·65 gm.) Its preparations are usually made direct from Bromine and Iron.

**Syrupus Ferri Bromidi, B. P. C.**.—Contains 4½ grains in 1 drachm. *Dose*—½ to 1 drachm (1·8 to 1·5 cc.)

May also be made with **Strychnine**,  $\frac{1}{12}$  grain (0·001 gm.) in each dram.

**Syrupus Ferri et Quininæ Hydrobromatum, B. P. C.**, **Syrupus Ferri Bromidi cum Quinina** *Dose*—½ to 1 drachm (1·8 to 3·5 cc.)

**Syrupus Ferri, Quininæ et Strychninæ Hydrobromatum, B. P. C.**, **Syrupus Ferri Bromidi Quinina et Strychnina**. *Dose*—½ to 1 drachm. (1·8 to cc.) Contains 1 grain Quinine Hydrobromide in each drachm. Strychnine and Iron as in the preceding syrups.

**Glyceritum Ferri Bromidi**.—Contains 5 grains in 1 drachm, made with Glycerine. The Glycerine preserves the Ferrous salt from oxidation, and the preparation is a convenient one and less likely to derange the stomach when given to children.—*Ph. J.*, Apr. 20, '89. *Dose*—½ to 1 drachm (1·8 to 3·5 cc.)

**Ferri Carbonas Saccharata, B. P.**.—A mixture of Ferrous Carbonate (1 part) with Ferric Oxide and Sugar (2 parts). *Dose*—5 to 30 grains (0·32 to 0·2 gm.). Incompatible with acids and with vegetable astringents.



**Mistura Ferri Composita, B.P.**—(Griffith's Mixture), contains Ferrous Carbonate with sugar, myrrh, nutmeg, and rose-water. *Dose*— $\frac{1}{2}$  to 1 ounce (15 to 30 cc).

**Pilula Ferri Carbonatis, B.P., 1885.** *Dose*—5 to 20 grains (0.32 to 1.3 gm.)

**Trochisci Ferri Carbonatis, Saccharatæ.**—3 grains each.

**Pilula Ferri, B.P.**—Blaud's Pill. Same as the B.P.C. Formulary. A 5-grain pill contains about 1 grain Ferrous Carbonate. *Dose*—5 to 15 grains (0.32 to 1 gm.)

Ferrous Carbonate acts as a mild non-astringent chalybeate, useful in anæmie amenorrhœa, and as a tonic for delicate females and children.

**Ferrum Caseinatum.**—Pale yellow, odourless and tasteless powder, insoluble in water, soluble in dilute aqueous ammonia. Contains about 5 per cent. iron.

**Ferri Citras, U.S.P., Ferric Citrate.** *Dose*—5 to 10 grains (0.32 to 0.65 gm.)

**Ferri et Ammonii Citras, B.P.** *Dose*—5 to 10 grains (0.32 to 0.65 gm.) in solution. If given in an effervescing mixture, the Iron salt should be added to the *acid* and not to the *alkaline* solution.

**Vinum Ferri Citratis.**—1 grain of the preceding in 1 drachm. *Dose*—1 to 4 drachms (3.5 to 15 cc.)

**Ferri et Quininæ Citras.**—See page 254.

**Ferri Fluoridum.**—See page 13.

**Ferri Hypophosphis.**—See page 235.

**Ferri Iodidum, Ferrous Iodide.**  $\text{FeI}_2 \cdot 2\text{H}_2\text{O}$ . *Dose*—1 to 5 grains (0.065 to 0.32 gm.)

**Ferri Iodidum Saccharatum, U.S.P.**—Contains 20 per cent. of Ferrous Iodide. *Dose*—5 to 20 grains (0.32 to 1.3 gm.)

**Syrupus Ferri Iodidi, B.P.**—Contains Ferrous Iodide 1 in 10. *Dose*— $\frac{1}{2}$  to 1 drachm (1.8 to 3.5 cc.)

**Glyceritum Ferri Iodidi.**—Strength and dose same as Syrup. Contains Glycerine as a basis. (See page 149.)



**Pilula Ferri Iodidi, B.P., 1885.**—Blanchard's Pills.—1 in  $3\frac{1}{2}$ . *Dose*—3 to 8 grains (0.2 to 0.52 gm.)

Ferrous Iodide is a useful tonic, especially in scrofulous diseases.

**Ferri Lactas, U.S.P.,** Ferrous Lactate.—In small greenish-white crystals, with a mild sweetish taste. Slightly soluble in water, insoluble in alcohol, freely soluble in a solution of citrate of sodium, forming a green solution. Given in anæmia and chlorosis; easily absorbed by the system. *Dose*—2 to 10 grains (0.13 to 0.65 gm.)

**Syrupus Ferri Lactatis.**—5 grains in 1 drachm. *Dose*— $\frac{1}{2}$  to 2 drachms (1.8 to 7 cc.)

**Ferrous Oleate.**—See page 215.

**Ferri Perchloridum;** Ferric Chloride; Ferri Chloridum, U.S.P.;  $\text{Fe}_2\text{Cl}_6 \cdot 12\text{H}_2\text{O}$ .—In orange yellow crystalline masses, very deliquescent. Freely soluble in water, alcohol, and ether. *Dose*—2 to 8 grains (0.13 to 0.52 gm.)

**Liquor Ferri Perchloridi Fortior, B.P.**—Contains 20 per cent. Iron, and is used alone as a styptic and astringent. Also with an equal quantity of Glycerine as a paint for the throat and in diphtheria. *Dose*—1 to 4 minims (0.06 to 0.24 cc.)

A strong solution of Ferric Chloride in water has been recommended in place of the B. P. Liquor, as being less acid.

**Liquor Ferri Perchloridi, B.P.** *Dose*—5 to 15 minims (0.30 to 0.9 cc.), and

**Tinctura Ferri Perchloridi, B.P.** *Dose*—5 to 15 minims (0.30 to 0.9 cc.). Contain 1 in 4 of the stronger Liquor. They are the most generally used preparations of Iron, the latter being more commonly known as "Tincture of Steel," "Steel Drops," etc.

The Throat Hospital Pharmacopœia orders an **Injection**, 60 grains Ferric Chloride in 1 ounce; a **Spray (Nebula)**, 3 grains in 1 ounce; a **Strong Pigment**, 120 grains in 1 ounce; and a **Dilute Pigment**, 60 grains in 1 ounce.

**Styptic Wool** and **Lint** are also prepared containing 15 per cent. of the Perchloride.

**Liquor Ferri Chloroxidi.**—A basic solution of Ferric Chloride, same strength as the Tincture. *Dose*—10 to 30 minims (0.6 to 1.8 cc.) By removing most of the acidulous matter by dialysis it forms

**Liquor Ferri Dialysatus, B. P., 1885.**—A clear dark-brown liquid, neutral to test-papers, free from ferruginous taste. Sp. gr. 1·047. Useful when the acid preparations of Iron cannot be borne by the stomach. *Dose*—10 to 30 minims (0·6 to 1·8 cc.). As it is not miscible with water, it should be given alone, or with Glycerine in the form of

**Glycerinum Ferri Dialysati.**—1 in 3. A palatable and stable preparation. *Dose*—60 minims (3·5 cc.)

Dialysed Iron is very useful as an antidote to arsenic, given in e-ounce doses, preceded by common salt or bicarbonate of sodium.—*M.*

**Liquor Ferri Pernitratis, B. P.**—A clear reddish-brown solution, containing Ferric Nitrate,  $\text{Fe}_2 6\text{NO}_3$ . Useful in chronic diarrhoea. *Dose*—10 to 40 minims (0·6 to 2·4 cc.)

**Ferri Peroxidum Hydratum.**—Ferri Sesquioxidum; Ferri Oxidum Rubrum; Hydrous Peroxide of Iron; Ferric Oxyhydrate  $\text{Fe}_2\text{O}_3 \cdot \text{H}_2\text{O}$ . *Dose*—5 to 30 grains (0·32 to 2 gm.) (Also called *Rouge*, *Crocus of Mars*, etc.)

**Emplastrum Ferri, B.P.**; Chalybeate Plaster; Emplastrum Thuris; Emplastrum Roborans.—1 (Peroxide) in 11. A strengthening plaster.

**Ferri Oxalas, U.S.P.**, Ferrous Oxalate.—A pale yellow crystalline powder. Used chiefly in photography.

**Ferri Phosphas, B.P.**—Contains 47 per cent. Ferrous Phosphate  $\text{Fe}(\text{PO}_4)_2 \cdot 8\text{H}_2\text{O}$ , with Ferric Phosphate and some Oxide. A slate-blue amorphous powder, insoluble in water, soluble in hydrochloric acid. (The U.S.P. Phosphate is a soluble Sodio-Citro-Ferric Phosphate.) *Dose*—5 to 10 grains (0·32 to 0·65 gm.)

**Ferratin.**—A preparation of iron made by the Synthetic method from Albumen and Ferri et Sodii Tartras and contains from 6 to 10 per cent. of iron, said to be readily absorbed, and is indicated as the substance from which the colouring matter of the blood is formed. *Dose*—8 to 15 grains (0·52 to 1 gm.)

**Ferripyrin (Ferropyrin).**—A dark red crystalline or orange red powder, dissolving in 5 parts of water, and giving the latter a dark red colour. The salt is not changed by air, and contains 12 per cent. iron and 64 per cent. antipyrin.

Ferropyrin has the action of iron as well as antipyrin, and is therefore indicated in chlorotic and anæmic conditions accompanied by neuralgia. Externally for bleeding from the nose, the throat, vagina, and tooth extractions. *Dose*—3 to 8 grains (0·2 to 0·5 gm.)

**Syrupus Ferri Phosphatis, B. P.**—1 grain *anhydrous* Phosphate in 1 drachm. *Dose*— $\frac{1}{2}$  to 1 drachm (1·8 to 3·5 cc.)

**Syrupus Ferri Phosphatis cum Manganedio.**—Contains  $\frac{1}{2}$  grain each Phosphates of Iron and Manganese in each fluid drachm. *Dose*—1 drachm (3·5 cc.). Useful when Syrup of Phosphate of Iron disagrees.—*Sq.*

**Syrupus Ferri Phosphatis Compositus, B. P. C.**—Parrish's Syrup (*modified*).—Each fluid drachm contains  $\frac{1}{2}$  grain Phosphate of Iron,  $\frac{2}{3}$  grain Phosphate of Calcium, with Phosphates of Potassium and Sodium. A general tonic, particularly suited for children. Similar to "Chemical Food," but as the quality of the latter is often very inferior in the samples usually sold, it is not a satisfactory preparation unless purchased from a reliable source. *Dose*— $\frac{1}{2}$  to 2 drachms (1·8 to 7 cc.)

**Syrupus Ferri Phosphatis cum Quinina et Strychnina, B. P.**—Easton's Syrup, modified.—Contains in each drachm 1 grain Phosphate of Iron, 1 grain Sulphate of Quinine, and  $\frac{1}{4}$  grain of Strychnine. *Dose*— $\frac{1}{2}$  to 1 drachm (1·8 to 3·5 cc.)

**Syrupus Ferri, Quininæ et Strychninæ Phosphatum, B. P. C.**—Contains in each drachm 1 grain Phosphat. of Iron,  $\frac{2}{3}$  grain Phosphate of Quinine, and  $\frac{1}{32}$  grain Strychnine. *Dose*— $\frac{1}{2}$  to 1 drachm (1·8 to 3·5 cc.)

**Pilulæ Ferri, Quininæ et Strychine Phosphatum,** Easton's Syrup Pills.—Each equal to 1 drachm of the Syrup.

**Pilula Trium Phosphatum.**—Similar to the above with liquorice powder instead of sugar.

**Ferri Picras**—Recommended as a hepatic stimulant. *Dose*—1 grain twice daily in pill.

**Ferri Pyrophosphas, U. S. P.**, Ferrie Pyrophosphate.—Thin, apple-green, transparent scales, turning dark on exposure to light, freely soluble in water, insoluble in spirit. *Dose*—2 to 8 grains (0·13 to 0·52 gm.)

**Ferri Salicylas.**—A purplish-brown powder, slightly soluble in water, given as an anti-arthritic tonic and for tonsillitis. A good application to foul wounds with a tendency to bleeding. *Dose*—3 to 10 grains, in pills (0·2 to 0·65 gm.)

**Ferri Succinas,** Succinate of Iron.—An amorphous red brown powder, insoluble in water or alcohol. Given with chloroform in the treatment of gall-stones.—*Ph. Rec.*, Apr. 7, '90. *Dose*—1 to 5 grains (0·065 to 0·32 gm.)

**Ferri Sulphas, B.P.,** Ferrous Sulphate,  $\text{Fe SO}_4 \cdot 7\text{H}_2\text{O}$ : and

**Ferri Sulphas Granulata, B.P.**—*Dose of each*—1 to 5 grains (0·065 to 0·32 gm.)

**Ferri Sulphas Exsiccatus.** Dried Sulphate of Iron.  $\text{Fe SO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$ . *Dose*— $\frac{1}{2}$  to 3 grains (0·032 to 0·2 gm.)

**Liquor Ferri Subsulphatis, U.S.P.**—Monsel's solution. A solution of Basic Ferric Sulphate. When evaporated form **Monsel's salt** or **Oxypersulphate of Iron**. *Dose* of liquor 3 to 6 minims (0·18 to 0·35 cc.)

**Ferri et Ammonii Sulphas, U.S.P.**—Ammonia Ferric Alum; Iron Alum; Ferro-Alumen.  $\text{Fe}_2 (\text{NH}_4)_4 \cdot 24\text{H}_2\text{O}$ —Pale violet octahedral crystals, efflorescent, having an acid styptic taste, and a slightly acid reaction. Soluble 1 in 3 of water. insoluble in alcohol. Used internally to arrest hæmorrhage from the kidneys. 8 grains to 1 ounce forms a good astringent gargle. *Dose*—3 to 10 grains (0·2 to 0·65 gm.)

**Ferri et Magnesii Citras.**—Reddish brown scales, soluble in water. *Dose* 3 to 15 grains (0·2 to 0·1 gm.)

**Ferri et Magnesii Sulphas,** the double Sulphate of Iron and Magnesium. Small granular crystals of a pale green colour. *Dose*—2 to 10 grains (0·13 to 0·65 gm.)

**Ferrum Tartaratum, B.P.,** Tartarated Iron; Potassio-Ferric Tartrate.—Thin transparent scales of a deep garnet colour. soluble in water, but sparingly in spirit. *Dose*—5 to 10 grains. (0·32 to 0·65 gm.)

**Tinctura Martis,** one of Tartarated Iron to four of water.

**Ferri et Ammonii Tartras, U.S.P.**—Ammonio Ferric Tartrate, is a somewhat similar salt.

**Ferri Valerianas, U. S. P.**—Ferric Valerianate.—A dark red amorphous powder, insoluble in cold water, readily soluble in alcohol, decomposed by boiling water into Ferric Hydrate and Valerianic Acid. *Dose* 1 to 5 grains (0.065 to 0.32 gm.)

Salts of Iron are incompatible with vegetable astringents, alkaline carbonates, and all infusions, etc., containing tannin.

## FILIX MAS., B. P.

Male Fern. The rhizome of *Aspidium Filix Mas.*

**Acidum Filicicum.**—Filicic Acid. *Dose*—6 to 15 grains (0.4 to 1 gm.) A white amorphous powder, soluble in alcohol, insoluble in water. The active principle of male fern.

**Extractum Filicis Liquidum, B. P.**—*Dose*—45 to 90 minims (2.7 to 5.3 cc.). For tapeworm. Also prepared in **Capsules** containing 15 minims (0.9 cc.)

## FLUORESC EIN.

(Resorcin-phthalein-anhydride.)—A yellowish red powder, practically insoluble in water, soluble in alcohol, and forms salts with alkalis. Used for the diagnosis of corneal lesions. A solution of 10 grains to an ounce of water is used, to which is added 15 grains Sodium Bicarbonate. The colouration shows itself as a green ring round the foreign body.

**FORMOL.**—See page 31.

## FORMANILIDE.

Phenyl-formamide. A coal-tar product, in long colourless prismatic crystals, soluble in water and alcohol decomposed by acids. Described as a local anæsthetic, and a powerful antipyretic. *Dose*—1 to 4 grains (0.065 to 0.26 gm.) Locally mixed with an equal quantity of starch as an insufflation in diseases of the larynx.

**FUCHSINE.**—See page 44.

## FUCUS VESICULOSUS.

**Bladder Wrack; Sea Wrack.**—The dried plant of *Fucus vesiculosus*. (Algæ), a common sea-weed. Being rich in iodine it has long been used for glandular swellings and obesity,

chiefly the latter, the preparation sold as "Anti-Fat" being said to be a fluid extract of this drug. A number of cases are reported in which preparations of this drug have proved efficacious, as well as a few in which it did not seem to have much effect. It does not produce dyspepsia or diarrhœa.

**Extractum Fuci Vesiculosi.**—*Dose*—3 to 8 grains (0.2 to 0.52 gm.)

**Extractum Fuci Vesiculosi Liquidum.**—Miscible with water. *Dose*—1 to 2 drachms (3.5 to 7 cc.) 3 times a day, before meals.

**GALLACETOPHENONE.**—See page 17.

**GALLAL.**—See page 35.

### GALLANOL.

Obtained by heating tannin with aniline and treating the product with hydrochloric acid; small white crystals slightly soluble in water. Specially recommended in all cases of genuine mycosis of the skin. Used in place of chrysophanic acid, the effect is somewhat weaker, but it is of great use where the application of chrysophanic acid is impossible on account of attendant circumstances—as powder or ointment.

### GALIUM APARINE.

The plant Cleavers or Goose-grass. Acid, astringent and diuretic. Used in Dropsy, Jaundice, etc. **Succus Galii.** *Dose*—1 to 2 drachms. **Extractum Galii.** *Dose*—5 to 20 grains.

### GALLOBROMOL.

Dibromgallic acid, in whitish small crystals, soluble 1 in 10 of water and in alcohol. No toxic action, antiseptic and germicidal—specially useful in Blennorrhœgia in solution of 2 to 4 per cent. as injection. *Dose*—5 to 15 grains (0.32 to 1 gm.)

### GARCINIA MANGOSTANA.

**Mangosteen** (Guttifera).—The Rind is used in Dysentery, and chronic diarrhœa. It contains tannin, resin, and a crystallizable principle *Mangostine*.



## GARCINIA MORELLA.

**The Gamboge Tree** (Guttiferi). The Gum resin (Gamboge) contains Cambogic acid on which its activity chiefly depends. A hydragogue cathartic and anthelmintic.

*Dose*—1 to 4 grains.

## GARCINIÆ OLEUM, P.I.

**Oil of Garcinia; Kokum Butter.**—The oil from the seeds of *Garcinia indica* (*Garcinia purpurea*), Guttiferæ, a tree common on the Western coast of India, and on the hills of the Concan. The oil is obtained by bruising and boiling the seeds in water; the oil separates on cooling, and is remelted and filtered to free it from impurities. The seeds yield about 10 per cent. of oil.

A pale yellowish-white concrete oil, melting at 98° F. (body temperature); friable, and greasy to the touch. It consists chiefly of *Tristearin*. Useful as an application for ulcers and chapped hands, and also as a basis for ointments for use in hot climates and for suppositories, its melting point being specially in favour of its use for the latter purpose.

## GAULTHERIÆ OLEUM, U.S.P.

**Oil of Wintergreen.**—A volatile oil distilled from the leaves of Wintergreen, *Gaultheria procumbens* Ericaceæ. A colourless, yellow, or reddish liquid, soluble in alcohol. It consists of Methyl Salicylate with a small quantity of a terpene. Commercial Gaultheria Oil is mostly oil of Birch (*Betula lenta*), which consists entirely of Methyl Salicylate, or a mixture of oils of Birch and Wintergreen, although pure Gaultheria Oil is obtainable.—*Sq.*

Possesses properties similar to Salicylic Acid, being valuable in acute rheumatism and sciatica. Externally it has been used for eczematous eruptions and sores, especially in the ears and other delicate parts. Also employed as a flavouring agent, especially in dentifrices.

*Dose*—10 to 15 minims.

**Capsules** contain 10 minims each.

**Spiritus Gaultheriæ, U.S.P.**—3 per cent.

**Unguentum Gaultheriæ.**—For external application.



**Methyl Salicylas, U.S.P.**—Synthetic Oil of Wintergreen. A colourless liquid used in a similar manner to the genuine oil. More particularly successful in the articular manifestations of Rheumatism, especially as a means of relieving pain which disappears very rapidly under its administration. *B.M.J.*—April 22, '69.

### GAUZES, MEDICATED.

Since the introduction of the antiseptic system of surgery, Medicated Gauzes have been on the increase, and Gauzes are now prepared containing a definite percentage of nearly every antiseptic in common use. Most Gauzes are tinted with some colouring material, as aniline blue, magenta, hæmatoxylin, etc., partly for purposes of ready identification, but principally as a proof that the material has been evenly medicated, the colour being first mixed with the antiseptic.

Gauzes to be readily absorbent, should be free from the acid and fatty substances which are usually present in the raw material (for this reason Gauzes prepared with wax and resin are of little use as absorbents), should contain at least 30 threads each way per square inch, and should weigh before medication at least 10 drachms per square yard.—*Ph. J.*, Dec. 21, '89; *W.*, July '99.

Under the name of **Telæ**, the Dutch Pharmacopœia of 1839 orders Medicated Gauzes, the raw material of which should take up water easily and sink therein, and should weigh not more than 100 grammes (about 3 ounces) for 2 square metres (80 by 40 inches). In spite of the first precaution, however, the Gauzes are ordered to be medicated with paraffin as a basis.

**Gauze and Cotton Wool Tissue** (Gamgee's Tissue) consists of a thin sheet of absorbent cotton wool between two layers of Gauze. It may be had plain or medicated.

For a full list of Medicated Gauzes, see INDEX.

### GELATINUM, B.P.

**Gelatine.**—It is prepared from 'gelatigenous animal tissues,' and is required to give a colourless and odourless solution with hot water. Its official use is for making Glycerine Suppositories. (See page 152.) It is also largely used for coating pills (see page 152), and very largely in the arts.

**Glycerine Jelly.**—A preparation for the hands, consisting of Gelatine, Glycerine, and Rose Water. A firmer jelly is made for putting up microscopic specimens.

**Gelatine Mass,** for Pessaries and Suppositories, consists of Gelatine with water and Glycerine, 1 of Gelatine in 6 by weight.

**Gelato-Glycerine.**—A similar but firmer preparation (1 in 3), used as a base for nasal and urethral bougies. It is also firmer than the following :—

**Glyco-Gelatine.**—A mass similar to the two preceding, but of a consistency better suited to the purposes for which it is required. It is flavoured with orange and tinted with carmine, and is used as a basis for

**Pastilli, Pastils.**—These are specially adapted for throat and mouth medication, their gelatinous nature and pleasant taste making them very agreeable ; while the simplicity of their composition allows of any formula being prepared on short notice. For List, see INDEX.

**Gelatum Zinci.**—A preparation of Gelatine, Glycerine, and Zinc Oxide. Used as an application to eczematous surfaces, being melted and applied with brush. It may also be used as a basis for other medicaments, as Iodoform, Chrysarobin, Carbolic Acid, Salicylic Acid, Resorcin, or Naphthol, 10 per cent. ; fats, balsams, tars, and Ichthyol, 10 to 20 per cent. ; Corrosive Sublimite, 3 per cent. ; Extract of Cannabis Indica, 2 to 5 per cent, etc. It is incompatible with tannin, pyrogallol, and oxide of mercury.—*Ph. J.*, Apr. 2, '90.

**Gelatine Capsules.**—An elegant method of administering nauseous powders and liquids. They consist of two tubes of Gelatine, closed at one end, and telescoping into one another, and are made in various sizes and styles to suit the nature of the medicament. Ordinary capsules for oral exhibition are made in a number of sizes from 5 grains upwards ; rectal capsules are pointed at one end and made in 3 sizes ; horse capsules are larger and in 3 sizes ( $\frac{1}{2}$ ,  $\frac{1}{4}$  and 1 ounce.) **Elastic Capsules** are sent out ready filled ; they contain some glycerine and are soft and pliable, being particularly suited for such drugs as castor oil, the large dose of which renders a hard capsule unmanageable.

## GELIDIUM CORNEUM.

**A Seaweed.**—The dried jelly forms *Agar-Agar* (Japanese Isinglass) consisting of membrane like strips. It is used as a cultivating medium for germs and also in making jellies for invalids. It has great gelatinising power, combining with 100 times its weight of water to form a jelly. This differs from that of isinglass in its requiring more heat to liquefy it.

## GELSEMIUM, B.P.

**Gelsemium; Yellow Jasmine.**—The dried rhizome and rootlets of *Gelsemium nitidum* (*G. sempervirens*). Loganiaceæ. United States, very valuable in neuralgia and toothache, also said to be an antiperiodic in fever. Useful also in convulsive or spasmodic cough. Internally it contracts the pupil, locally it dilates the pupil. Contra-indicated where cardiac action is weak.

A powerful paralyser and respiratory poison.—*Ring.*

*Antidotes.*—Emetics; stimulants; Morphine; Atropine.

Gelsemium is an antidote to strychnine. It contains two alkaloids *Gelsemine* and *Gelseminine*, also *Gelsemic Acid*.

**Extractum Gelsemii Fluidum, U. S. P.**—Not miscible with water. *Dose*—1 to 10 minims (0.06 to 0.6 cc.).

**Tinctura Gelsemii, B. P.**—1 in 5. Pale brown with a fluorescent surface. *Dose*—5 to 15 minims (0.3 to 0.9 cc.), alone or with a Bromide.

**Gelsemina, Gelsemine.**—The active principle. A pale yellow crystalline powder, sparingly soluble in water. *Dose*— $\frac{1}{80}$  to  $\frac{1}{20}$  grain (0.0011 to 0.0032 gm.).

*Amorphous Gelsemine* is a mixture of two alkaloids.

**Gelseminæ Hydrochloridum.**—Freely soluble in water. *Dose*— $\frac{1}{80}$  to  $\frac{1}{20}$  grain (0.0011 to 0.0032 gm.).

**Liquor Gelseminæ Hydrochloridi.**—1 grain in 1 drachm. Not much in use.

**Gelsemin.**—The powdered alcoholic extractive of the root. Must not be confounded with *Gelsemine*, the alkaloid. *Dose*— $\frac{1}{2}$  to 2 grains (0.032 to 0.13 gm.).

**Extractum Gelsemii Alcoholicum, B. P., 1885.**—An alcoholic extract of the drug, intended to represent Gelsemin. *Dose*— $\frac{1}{2}$  to 2 grains (0.032 to 0.13 gm.).

## GERANIUM MACULATUM, U. S. P.

Cranesbill root. A strong astringent. Geranin, the dried extract. *Dose* of extract—1 to 5 grains (0·065 to 0·32 gm.).

**GLONOINUM.**—See page 212.

**GLUSIDUM.**—See page 263.

## GLUCINE.

A new product analogous to saccharin. It is far less sweet than saccharin, 1 part being equivalent to 100 of ordinary cane-sugar. The taste differs from that of saccharin. *B. & C. D.*, Nov. 23, '95.

## GLUCOSE.

**Liquid Glucose.**—A clear almost colourless liquid, odourless, about the consistence of Canada Balsam.

**Syrupus Glucosi, B. P.**—Syrup of Glucose. Liquid Glucose 1, Syrup 1; mix with heat. A new excipient for pills.

## GLUTOL.

**Formaldehyd Gelatine.**—A compound of formic aldehyde and gelatine. When applied to a simple wound forms in a few hours a solid adherent crust, under which the wound heals rapidly by first intention.

Used for purulent wounds, burns, etc.

## GLYCERINUM, P. B.

**Glycerine; Glycerol.**  $C_3H_5(OH)_3$ .—A sweet principle obtained from fats and oils by saponification or superheated steam. Used externally as an application in various skin diseases; internally it relieves cough, and as an anal injection is given for constipation, which it relieves very rapidly. From  $\frac{1}{2}$  to 2 drachms, either plain or slightly diluted, injected by means of a suitable syringe, acts very well.—*L.* 88, i, 38. A piece of cotton wool, well saturated with Glycerine, is equally efficacious.—*B. M. J.*, Dec. 22, '88. An ordinary syringe with a catheter attached allows the enema to be passed 5 or more inches up the rectum, causing a more certain and immediate evacuation.—*Pr.*, Apr. '89. In infantile diarrhoea an injection of 2 drachms has been found very valuable.—*Pr.*, Dec. '88.

*Dose*—1 to 2 drachms (3·5 to 7 cc.).

**Suppositoria Glycerini, B. P.**—Consists of Gelatine, Glycerine, and water, containing 70 per cent. by weight of Glycerine. They are made 30, 60, and 120 grain-measures each. For use in place of the enema.

*Official Preparations.*

Glycerinum Acidi Borici	...	...	...	1 in 3½
Glycerinum Acidi Carbolici	...	...	...	1 in 5
Glycerinum Acidi Tannici	...	...	...	1 in 5
Glycerinum Aluminis	...	...	...	1 in 6
Glycerinum Amyli	...	...	...	1 in 8
Glycerinum Boracis	...	...	...	1 in 6½
Glycerinum Pepsini	1 drachm=5 grs.	Pepsine,		
Glycerinum Plumbi Subacetatis				
Unguentum Glycerini Plumbi Subacetatis.	1 in 6			
Glycerinum Tragacanthæ	...	...	...	1 in 4

Glycerine of Tannic Acid is frequently made as strong as 1 to 2. Glycerine of Alum is a useful astringent in diseases of the throat, and less disagreeable than Tannin.

Glycerinum Plumbi Subacetatis is used in eczema, first diluted 1 to 7 with Glycerine, the strength being gradually increased; it has also been used applied on wool, for uterine affections. The Ointment is useful in eczema and tinea vari.

Glycerinum Tragacanthæ is used as an excipient for pills.

*Unofficial Preparations—*

**Boroglyceride.**—See page 5.

**Glycerine Jelly.**—See page 147.

**Gelato-glycerine.**—See page 147.

**Glycerinum Aluminis et Acidi Tannici.**—Alum 1, Tannin 1, Glycerine 6. A very astringent throat pigment. One ounce to a pint of water forms a useful astringent vaginal injection.

**Glycerinum cum Aqua Rosæ.**—Of various strengths. An agreeable emollient lotion for the skin.

**Glycerinum Belladonnæ.**—See page 63.

**Glycerinum Bismuthi Nitratis.**—1 to 8. Useful as a stimulant application in eczema.

**Glycerine and Codeia Jelly.**—See page 109.

**Glycerinum Ferri Dialysati.**—See page 140.

**Glycerinum Hydrargyri Perchloridi.**—See page 164.

**Glycerinum Iodi.**—See page 179.

**Glycerinum Olei Ricini.**—1 in 2. A viscous compound, flavoured with Lemon or Almonds, very suitable for children. It is not nauseous. *Dose*—1 drachm or more.

**Glycerinum Pepsinæ.**—See page 226.

**Glycerites.**—Preparations of Glycerine, analogous to Syrups for internal administration. In many cases they are preferable to Syrups, being more stable and less likely to disagree with the stomach (see page 139). All the metallic salts which are made into Syrups may be made into Glycerites of the same strength.

**Glyconin (Glycerinum Vitelli, U.S.).**—Yolk of egg 45, Glycerine 55. Used for emulsifying oils, etc.

**Glyco-Gelatin.**—See page 147.

**Glycerinum Saponatum.**—Consists of a neutral soda soap dissolved in Glycerine. A yellowish elastic mass, which is odourless and melts at the body temperature. A pleasant application for the skin, and suitable as a basis for other medicaments, as Salicylic Acid, 5 per cent. ; Resorcin and Salicylic Acid, of each 5 per cent. ; Creasote and Salicylic Acid, of each 5 per cent. ; Salicylic Acid, 3, and Pix Liquida, 10 per cent.—*Ph. J.*, Aug. 2, '90.

**Glycerine Tinctures or Glyceroles.**—Preparations of the same strength as Tinctures, but containing Glycerine in place of Spirit. Useful in cases where alcohol is contra-indicated. They can be prepared from most drugs in common use. Glycerole of Nux Vomica, the same strength as the *B. P.* Tincture, also of Ipecacuanha, same as the Wine, have been recommended.—*L.*, Dec. 13, '90.

**Glycozone**, said to be a staple compound, produced from pure Glycerine, by the action of 15 times its weight of ozone under normal atmospheric pressure at a temperature of 0° C. It has an agreeable taste, and is a powerful oxidising agent. It cannot, therefore, be administered with any other drugs or chemical



substances. Hygroscopic. Used in ulceration of the stomach and chronic gastric catarrh, one or two teaspoonfuls after meals being recommended.

## GLYCYRRHIZINUM AMMONIATUM, U. S. P.

**Ammoniated Glycyrrhizin.**—A scale preparation made from the root of *Glycyrrhiza glabra* or Liquorice (*Radix Glycyrrhizæ*, B. P.) by treating with water and Ammonia, precipitating with Sulphuric Acid, re-dissolving in Dilute Ammonia, and spreading on glass-plates to dry.

In dark brownish-red scales, sweet in taste, soluble in water and alcohol. Treatment with an alkali liberates ammonia, and with an acid precipitates *Glycyrrhizin* or *Glycyrrhizic Acid* ( $C_{42}H_{62}NO_{18}$ ), which forms a jelly when dissolved in hot water, and when dry is an amorphous yellow powder. *Glycyrrhizic Acid* exists in Liquorice as an ammoniacal compound, which Ammoniated Glycyrrhizin is intended to represent.

Ammoniated Glycyrrhizin is used chiefly as a flavouring agent for mixtures containing Quinine, Sulphate of Magnesium, Chloride of Ammonium, etc.

*Dose*— $\frac{1}{2}$  to 5 grains, or more (0.062 to 0.32 gm.)

## GOKHRU.

**Gokhru; Gokeroo.**—The fruit of *Pedaliium Murex* (*Sesamæ*), a plant common in the Madras Peninsula. A demulcent and diuretic, and used in the cure of nocturnal emissions, incontinence of urine, and impotence. The fruit as sold in the bazaars, as well as the leaves and stems, is rich in mucilaginous matter, and a mucilage made from the latter is much prized in India as a remedy for gonorrhœa and dysuria.

**Infusum Gokhru.**—1 in 20. *Dose*—20 ounces *per diem*; should be prepared fresh each day.

**Chota Gokhru.**—The fruit of *Tribulus terrestris* (*Zygophyllæ*), another Indian plant. The capsule is 5-celled and very prickly, and has a faintly aromatic and rather agreeable taste. It is used in Southern India as a diuretic.

## GOSSYPIUM, B.P.

**Cotton wool; Absorbent Cotton.**—The hairs of the



seed of *Gossypium barbadense* (Malvaceæ), and other species, freed from impurities and fatty matters. The *absorbent* wool is official. It is used in the preparation of Proxilyn, also as a wound dressing.

**Gauze and Cotton Wool Tissue.**— See page 146.

**Medicated Cottons.**—In addition to the Wools mentioned under other heads (see INDEX), Cotton Wool is medicated with Alum, Arnica, Benzoic Acid, Camphor, Chrysophanic Acid, Cubebs, Krameria, Opium, Resorcin, and Tannic Acid. All medicated cottons should be made from wool entirely free from fat (see also **Gauzes**, page 146), and should be examined to see that they are uniformly medicated.

**Artificial Sponges.**—These are made of Absorbent Cotton formed into balls and covered with antiseptic gauze, for use by surgeons in place of sponges. They are also made containing a glass capsule in the centre filled with an antiseptic, as Eucalyptus Carbolic Acid, Thymol, etc., which may be broken by pressure, allowing the antiseptic agent to permeate the sponge. Adaptations of these sponges are also made in the form of **Wound Pads and Vaginal Tampons.**

**Gossypii Radicis Cortex, U.S.P.**—The root bark of *Gossypium herbaceum*, and other species. Used as an emmenagogue and parturient and in some cases is preferable to Ergot in labour.

**Extractum Gossypii Fluidum, U.S.P.**—Not miscible with water. *Dose*—10 to 60 minims (0·6 to 3·5 cc.)

**Tinctura Gossypii.**—1 in 4. *Dose*—One drachm, 3 times a day (3·5 cc.)

The cotton plant is cultivated in India where it is known as *Kapas*, and, though not an article of commerce here, the root bark may be obtained fresh in most parts of the country.—*Pg. Ind.* The fixed oil obtained from the seeds is known as *Cotton Seed Oil*, but is not used medicinally.

## GRINDELIA, U.S.P.

**Gum Plant.**—The leaves and flowering tops of *Grindelia robusta* (Compositæ) from California. Although this is the official source of the *U.S.P.*, yet the drug as used in Europe is

mostly obtained from *G. squarrosa*, a plant which appears to be even more valuable medicinally than *G. robusta*. A valuable antispasmodic in whooping cough, bronchitis, etc., but especially for asthma, in which it exerts a singular efficacy.

### GYNOCARDIÆ OLEUM, P. I.

**Chaulmugra Oil.**—The oil expressed from the seeds of *Gynocardia odorata* (Bixiniæ), found in the forests from Sikkim to Kangoon. The seeds are rough skinned, hard and round, about an inch in diameter, 3 or 4 of which are contained in each fruit growing on the stem or main branches. They yield on cold expression about 30% of a pale brown fixed oil, with a peculiar odour and specific gravity of .95 at 90° F. It contains 60 per cent. palmitic acid and is therefore always solid in colder climates. It contains also Hypogæic and Cocinic, and Gynocardic Acid, the latter being the active constituent.—*Dey*. The oil sold in the bazaars is usually impure.

Chaulmugra Oil has been used externally for rheumatism, and also internally in doses of 3 to 4 minims for the same complaint; combined with Cod Liver Oil, 1 or two minims once a day may be given to children. Largely used in India as a remedy for leprosy, both externally and internally, and in Europe for skin diseases generally, also as an application to the chest for phthisis.

A case of leprosy in an Englishman was cured by this oil, administered in large doses (60 to 90 minims) thrice daily and applied freely to the skin. Dose lessened as symptoms disappeared.—*B.M.J.*, July 6, '89.

*Dose*—2 to 15 minims (0.12 to 0.9 cc.) 3 times a day.

10 minims 3 times a day has caused vomiting and purging with loss of appetite.—*Pg. Ind.*

**Unguentum Gynocardiæ.**—1 to 3—*M.* The *P.I.* orders an ointment made from the powdered seeds.

**Gynocardic Acid.**  $C_{14}H_{26}O_2$  (?).—A fatty acid, the active principle of Chaulmugra Oil existing in the oil to the extent of 11.7 per cent. A yellowish unctuous solid, melting at 85° F., with an acrid burning taste. It gives a green colour with sulphuric acid, a reaction which forms a characteristic test for the oil. Used internally and externally for the same purposes as Chaulmugra Oil, to which it is considered superior in skin

diseases, especially eczema. An ointment of 15 to 25 grains to 1 ounce of vaseline has been recommended.—*Pg. Ind. Dose*— $\frac{1}{2}$  grain (0.032 gm.) gradually increased to 3 grains (0.2 gm.) in pill.

**Extractum Grindeliæ**—Alcoholic. *Dose*—3 grains (0.13 gm.) 3 times a day.

**Extractum Grindeliæ Liquidum, B. P. C.**—Not miscible with water. *Dose*—10 to 30 minims (0.6 to 1.8 cc.) at the beginning of a paroxysm of asthma and repeated every half hour or hour. Should be given in sweetened water or milk to prevent separation of the resin.

**Mistura Grindeliæ, G. H.**—Contains 30 minims Liquid Extract 1 to ounce mucilage mixture, flavoured with Liquorice.

**GUAIACOL.**—See page 117.

### GUARANA, U. S. P.

**Brazilian Cocoa.**—The seeds of *Paullina sorbilis* (Sapindacæ), roasted, powdered, made into a paste, and dried. Imported from Brazil. Contains 3.5 to 6.5 per cent. of *Guaranine*, an alkaloid identical with Caffeine (see page 77). Guarana is used in sick-headache and has a nervine tonic; it is also useful in diarrhoea and dysentery.—*L. '72, ii, 313, 507.*

*Dose.*—10 to 60 grains (0.65 to 0.4 gm.)

**Elixir Guaranæ B. P. C.**—A tincture (flavoured with Syrup and Oil of Cinnamon) made with proof spirit after first treating the Guarana with Magnesia to liberate the alkaloid and render inert matter insoluble. *Dose*— $\frac{1}{2}$  to 2 drachms (1.8 to 0.7 cc.)

**Extractum Guaranæ Fluidum, U. S. P.**—Not miscible with water. *Dose*—5 to 30 minims (0.30 to 1.8 cc.)

**Tinctura Guaranæ.**—Strength 1 in 4. *Dose*— $\frac{1}{2}$  to 1 drachm (1.8 to 3.5 cc.)

**Guaranine.**—The alkaloid of Guarana (see above). Being identical with Caffeine, it is administered in the same manner for the same purposes. *Dose*— $\frac{1}{2}$  to 5 grains (0.032 to 0.32 gm.) or more.

**Elixir Erythroxyli et Guaranæ.**—Each fluid drachm represents  $7\frac{1}{2}$  grains each of Coca and Guarana. *Dose*—1 to 2 drachms (3.5 to 0.7 gm.)—*Ph. J., July 28, '88.*

## HÆMATIN ALBUMIN.

A blood food. A preparation of blood, consisting principally of dried albumin, holding a large quantity of iron. A dark brown powder, odourless and almost tasteless. It is well borne and easily assimilated. Does not cause constipation, but gives a reddish colour to the motions. *Dose*—One or two teaspoonfuls 3 times a day. Either pure or mixed with cocoa.—*Ed., M. J., March, '95.*

Also prepared in tabloid form which are called

**Residuum Rubrum** tabloids.

## HÆMATOXYLI LIGNUM, B. P.

**Logwood.**—The heart-wood of *Hæmatoxylin campechianum* (Leguminosæ). Imported from America.

**Decoctum Hæmatoxyli, B. P.**—1 in 20. *Dose*— $\frac{1}{2}$  to 2 oz. (0.15 to 0.60 cc.)

**Extractum Hæmatoxyli Liquidum, B. P. C.**—Made from *unfermented* logwood. Contains the Hæmatoxylin and all the medicinal properties unchanged—*Ph. J., Oct. 1, '87.* *Dose*— $\frac{1}{2}$  to 2 drachms (1.8 to 7 cc.)

**Hæmatoxylin.**  $C_{16}H_{14}O_8$ .—In colourless crystals sparingly soluble in water, freely in alcohol. It is used for staining histological specimens. In contact with an alkali, as the ammonia of the air, Hæmatoxylin changes to *Hæmatein* ( $C_{16}H_{12}O_8$ ), a dark-red substance, with a yellowish-green lustre. This gives the well-known colour to ordinary logwood.

Logwood may be adulterated with Brazil wood, the wood of several species of *Cæsalpinia*. An infusion of the former gives a purple, and of the latter a red, coloration with alkalies.

## HÆMOFERRUM.

A new hæmatintie described as a natural proteid compound of iron, aseptically prepared from fresh bullock's blood, and as being very soluble, of pleasant taste, neutral, nonstyptic, and non-constipating.—*A.M.S.B., Oct. 15, '94.*

## HÆMOL AND HÆMOGALLOL.

Two products of the reduction of the colouring matter of the

blood. *Hæmol* is a blackish powder, obtained by the action of zinc. *Hæmagallol*, a reddish brown powder by means of pyrogallol. The latter is described as a reduction product of Hæmatin. *Dose*—Of both preparations 2 to 8 grains 3 times daily, in chlorosis, anæmia, etc. Hæmal forms combinations with zinc (*Zinc hæmal*), copper (*Hæmolum cupratum*) iron (*Hæmolum ferratum*), iodine (*Hæmolum iodatum*), Bromine (*Hæmolum Bromatum*). These metallic hæmols are very mild substitutes, for the respective metals.

## HAMAMELIS.

**Witch Hazel.**—The bark and leaves of *Hamamelis virginica* (Hamamelaceæ), an American tree. A powerful astringent and hæmostatic, useful in hæmorrhoids, diarrhœa, leucorrhœa etc., also as an application for ulcers, sprains, and abrasions. *Hæzeline* and *Pond's Extract* are preparations of the drug.

The bark and leaves are official.

**Hamamelidis Cortex, B. P.**—With Hazel Bark.

**Tinctura Hamamelidis, B. P.**—1 in 10; *B. P. C.*

A valuable hæmostatic in all forms of passive hæmorrhage. A lotion of 1 drachm to 3 ounces of water forms a useful injection for bleeding piles; it should be injected daily, or applied as a lotion 3 or 4 times a day, and the ointment or a piece of lint dipped in Hæzeline applied during the intervals. *Dose*—30 to 60 minims, or more (1·8 to 3·5 cc.)

**Extractum Hamamelidis.**—Solid. *Dose*—1½ to 2 grains. (0·032 to 0·13 gm.) in pill or suppository.

**Hamamelidis Folia, B. P.**—Witch Hazel Leaves.

**Liquor Hamamelidis, B. P.**—Distillate from fresh leaves *Dose*—5 to 15 minims (0·3 to 0·9 cc.)

**Extractum Hamamelidis Liquidum, B. P.**—Not miscible with water. *Dose*—5 to 15 minims (0·3 to 0·9 cc.)

**Unguentum Hamamelidis, B. P.**—1 (Liq. Extract) in 10.

**Hamamelidin or Hamamelin.**—The powdered extractive. *Dose*—½ to 2 grains (0·032 to 0·13 gm.) in pill or suppository.

**Hamamelis Wool** is ordered in the *Throat Hospital Pharmacopœia*.

**HELENIN.**—See page 174.

### HEMIDESMUS INDICUS, P. I.

**Indian Sarsaparilla** (*Aselepiadæ*).—Prescribed, like Sarsaparilla, as a demulcent, mild alterative, and diuretic. Its virtues reside in a volatile oil, and a crystallizable principle (*Hemidesmine*).

An **Infusion** and **Syrup** are official in the P. I.

### HIBISCI CAPSULÆ, P. I.

**Edible Hibiscus; Okra.**—The fruit of *Hibiscus cancellatus*, var. *esculentus* (*Malvaceæ*), cultivated in India. Recommended as emollient, demulcent and diuretic, similar to *Althæa*.

A **Decoction**, 3 in 20, is official. *Dose*—3 to 6 ounces, or *ad libitum*. The steam from this may also be inhaled for cough, etc.—*Pg. Ind.* i, 210.

### HOLARRHENA.

**Conessi or Tellicherry Bark; Kudasala.**—The bark of *Holarrhena antidysenterica* (*Apocynaceæ*), a shrub common in India. Indigenous to the tropical Himalaya. The bark contains an alkaloidal principle which has been named *concessine* and *kurchiene*. The bark has been confounded with that of *Wrightia tinctoria*, which is comparatively inert, but the former is of a dirty white or buff colour, while the latter is reddish brown and smooth.—*Dymock*. A valuable remedy for diarrhœa and dysentery, being given as a **Decoction**. 1 in 10, in doses of 4 drachms, four times a day, with 1 minim Tincture of Opium in each dose.—*I.M.G.*, '66, i, 352.

The seeds of this plant and of *H. pubescens* are known as *Karwa indejrao*, and *Inderjao tulk*, respectively, to distinguish them from *Inderjao sherin*, those of *Wrightia tinctoria*. They have been found serviceable as a febrifuge and anthelmintic, and as a tonic to the urinary tract, especially in stricture. They also act as an astringent like the bark. Given in the form of a **Tincture**, 1 in 8. *Dose*— $\frac{1}{2}$  to 2 drachms (1.8 to 7 cc.)

**HOLOCAIN.**—See page 109.



**HOMATROPINE.**—See page 59.

## **HYDNOCARPUS WRIGHTIANA.**

The oil expressed from the seeds of this tree and known amongst the natives of India as **Khauti Oil.**—Has long been used as a domestic remedy for skin diseases. It has recently been prominently brought forward as a valuable remedy in the treatment of leprosy and several cures are reported.

## **HYDRACETIN.**

**Acetyl-phenyl-hydrazin.**— $C_6H_5 \cdot NH-NH \cdot C_2H_3O_2$ .—A white, odourless, almost tasteless, crystalline powder, derived from coal-tar. Soluble 1 in 50 of water, freely in alcohol. It reduces Fehling's solution, nitrate of silver, mercuric and ferric salts, and chloride of platinum, and decolorises a solution of permanganate of potassium.—*Ph. J.*, June 29, '89.

A powerful antipyretic. It must be administered with caution and not continuously, as it very readily produces toxic effects.

*Dose*— $\frac{1}{2}$  to 3 grains daily (0.032 to 0.2 gm.), in 1 or 2 doses.

**Pyrodin**, an impure form, containing only about 25 per cent. of acetyl-phenyl-hydrazin, was first brought out, but owing to its very uncertain action, combined with its tendency to produce toxic symptoms, soon fell into discredit.—*L.*, Dec. 8, '88.

## **HYDRARGYRUM, B.P.**

**Mercury**, Hg.—Mercurial preparations are largely employed as antisymphilitics, cholagogues, and antiseptics, and externally as escharotics, or as stimulants to indurated or inflamed parts. In syphilis, care must be taken that the doses are sufficiently small to avoid salivation.

Hydrargyrum cum Creta, B. P.	...	...	...	...	1 in 3
Emplastrum Hydrargyri, B. P.	...	...	...	...	1 in 3
Emplastrum Ammoniaci cum Hydrargyro, B. P.	...	...	...	...	1 in 5
Linimentum Hydrargyri, B. P.	...	...	...	...	1 in 6
Pilula Hydrargyri, B. P.	...	...	...	...	1 in 3
Unguentum Hydrargyri, B. P.	...	...	...	...	1 in 2
Unguentum Hydrargyri Compositum, B. P.	...	...	...	...	1 in 5



*Other Preparations of Mercury—*

**Oleum Cinereum.** INJECTIO HYDRARGYRI HYPODERMICA, Grey Oil.—Contains Mercury (40 per cent.) Made with mercury, mercury ointment and white vaseline. For syphilis,  $1\frac{1}{2}$  to 2 minims injected deeply into the back every 5 to 8 days, the intervals being afterwards made longer, and the dose increased to 2 to 3 minims. Before injection the oil should be warmed over a spirit lamp.—*B. M. J.*, Dec. 28, '89. Its use is said to be unsatisfactory.

**Plaster Mulls** are prepared containing 1 grain Mercury to the square inch, also with the addition of  $\frac{3}{8}$  grain **Carbolic Acid**, and  $\frac{1}{2}$  grain **Oxide of Zinc**.

**Alanine Mercury**, Mercury Amido-propionate ( $\text{CH}_3\text{CH NH}_2, \text{COO}$ )<sub>2</sub> Hg.—Minute white needles, soluble 1 in 3 of water. Possesses the properties of other mercurials, and is not very poisonous. Given internally and hypodermically for syphilis. *Dose*— $\frac{1}{12}$  to  $1\frac{1}{2}$  grains (0.0054 to 0.1 gm.) in 24 hours.

**Hydrargyrum Ammoniatum, B.P.**, White Precipitate.  $\text{NH}_2\text{Hg. Cl.}$ —Never used internally. *Antidotes*—Stomach-pump or emetics; white of egg, flour and water, or barley water; stimulants.

**Unguentum Hydrargyri Ammoniatum, B.P.**—1 in 10 As a stimulant in chronic skin diseases, and for pediculi.

**Hydrargyri Benzoas**—Benzoate of Mercury. A white crystalline powder insoluble in cold, slightly soluble in hot water. Recommended for injection hypodermically with chloride of sodium and cocaine. A one per cent. solution in sterilized almond oil undergoes no decomposition.

**Hydrargyri Carboles**, Phenol Mercury,  $\text{C}_6\text{H}_5. \text{OHg. OH.}$ —A neutral salt in the form of a white amorphous powder prepared by the double decomposition of Mercuric Chloride and a solution of Carbolic Acid in Caustic Potash. Has been found very efficacious in syphilis, producing no gastric disturbance. *Dose*— $\frac{1}{2}$  to 2 grains (0.032 to 0.13 gm.) daily, in pill, after food.—*Ph. J.*, Feb. 26, '87.

**Hydrargyri Cyanidum. U.S.P.** Cyanide or Bicyanide of Mercury.—In colourless crystals, soluble 1 in 7 of water. It is not decomposed by alkalis. A powerful antiseptic, used as

an application to syphilitic rashes and sores. For diphtheria,  $\frac{1}{20}$  grain with  $\frac{1}{2}$  minim Tincture of Aconite, in honey, is given internally; a gargle, one in 10 000, being also used.  $\frac{1}{20}$  grain pills are also given, one twice daily. *Dose*— $\frac{1}{20}$  to  $\frac{1}{2}$  grain (0.0032 to 0.16 gm.)

**Injectio Hydrargyri et Cocainæ Hypodermica.**—Hydrochloride of Cocaine,  $\frac{3}{4}$  grain; Cyanide of Mercury,  $\frac{1}{2}$  grain; Water, 15 minims. For syphilis.

**Mercurio-Zinc Cyanide.**—A white powder, formed by precipitation of solutions of mercuric and potassic cyanide by zinc sulphate. It is not a definite double salt, but simply a Cyanide of Zinc containing more or less Mercuric Cyanide according to the strength of the solution used. It may contain as much as 36 per cent. of the latter. It is recommended by Lord Lister as a valuable unirritating antiseptic, used as an ointment for skin diseases, or for operations in the form of

**Mercurio-Zinc Cyanide Gauze.**—Contains 2 or 3 per cent. by weight of the cyanide, tinted with hæmatoxylin (pale blue). Before use it must be moistened with a 1 in 4,000 solution of corrosive sublimate—*L.*, Nov. 9, '89; *Ph. J.*, Jan. 11, '90. It is sold in 6-yard pieces.

**Hydrargyri Gallas.**—Mercurous Gallate. *Dose*— $\frac{1}{2}$  to 1 grain (0.032 to 0.065 gm.), in pill, 3 times daily; useful in syphilis.

**Hydrargyri Iodidum Rubrum, B.P.**, Biniodide of Mercury, Mercuric Iodide,  $HgI_2$ .—A vermilion-coloured powder, insoluble in water, soluble 1 in 50 of castor oil, and in solutions of other iodides forming double salts, also in solution of perchloride of mercury. Used in syphilis as an emmenagogue, and as a pigment or spray in diphtheria and scarlatina. *Dose*— $\frac{1}{2}$  to  $\frac{1}{4}$  grain (0.002 to 0.004 gm.)

**Unguentum Hydrargyri Iodidi Rubri, B. P.**—16 grains to the ounce.

**Unguentum Hydrargyri Iodidi Rubri Dilutum.**—4 grains to the ounce.

**Pilulæ Hydrargyri Iodidi Rubri** (Gelatin-coated).— $\frac{1}{10}$  and  $\frac{1}{2}$  grain each (0.004 to 0.008 gm.)

**Injectio Hydrargyri Iodidi Rubri Hypodermica.**  
 —1 grain in 64 minims with Iodide of Sodium, *q. s.* *Dose*—2 to 6 minims (0.12 to 0.35 cc.)

**Liquor Arsenii et Hydrargyri Iodidi.**—See page 58,

**Hydrargyri et Potassii Iodidum.** Potassio-Mercuric Iodide.—Yellow crystals. For syphilis, and as an anti-epileptic lotion, 1 in 8,000 of water. *Dose*— $\frac{1}{16}$  to  $\frac{1}{4}$  grain (0.004 to 0.6 gm.)

**Hydrargyri Iodidum Viride, U.S.P.,** Green or Proto-Iodide of Mercury, Mercurous Iodide.  $\text{HgI}_2$ .—A dull green powder, darkening on exposure to light, insoluble in water. Prepared by direct combination of Mercury and Iodine. When prepared by precipitation from solution of Mercurous Nitrate by Iodide of Potassium it is pale yellow; and is said to be purer, the green colour of the other preparation being due to metallic mercury.—*Ph. Rec.*, Sept. 10, '84. Was official in the *B. P.*, '67, but has been deleted. Its action is similar to Calomel, and it is given in syphilitic cases where the Red Iodide cannot be borne. It is used as an **Ointment** (1 to 8) for scrofulous and venereal eruptions, and chronic skin diseases. *Dose*— $\frac{1}{4}$  to 1 grain (0.01 to 0.65 gm.)

**Pilulæ Hydrargyri Iodidi Viridis (or Flavi).**—Gelatin coated, contain  $\frac{1}{4}$  grain each.

**Hydrargyri Lanolinum.**—See page 192.

**Hydrargyrum Naphtholicum, B.**—Naphthol Mercury.—A yellow, neutral, insoluble, odourless powder containing 30 per cent. of Mercury. It is used mixed with kieselguhr (1 or 2 in 100) or as a **Salve Mull**, being said to promote the healing of wounds in a remarkable manner. It is also a mild anti-syphilitic, and is said to have a specific action in typhoid. *Dose*— $\frac{1}{2}$  to 1 grain (0.032 to 0.065 gm.)

**Hydrargyri Naphtholacetat, Mercur-B-Naphthol Acetate.**—An amorphous white powder, insoluble in water. Used as an anti-syphilitic and, diluted with kieselguhr, as a dusting powder for wounds. *Dose*— $\frac{1}{2}$  to 1 grain (0.032 to 0.065 gm.)

**Hydrargyri Nitras.**—Mercurous Nitrate. Colourless damp crystals, soluble in water. Used as Lotion or ointment.

**Liquor Hydrargyri Nitratis Acidus, B.P.**—A solution of Mercuric Nitrate,  $\text{Hg 2 NO}_3$ , in Nitric Acid. Sp. gr. about 2.0. Used as a caustic.

**Unguentum Hydrargyri Nitratis, B.P.**, Citrine ointment; and

**Unguentum Hydrargyri Nitratis Dilutum, B.P.**—The latter contains 1 part of the former in 4. Used as a stimulant in skin diseases, also (the Dilute) in tinea ciliaris, applied with a brush.

**Hydrargyri Oleatum.**—See page 217.

**Hydrargyri Oxidum Flavum, B.P.**,  $\text{HgO}$ .—A yellow powder, prepared by precipitation. Insoluble in water. Used as an Ointment (1 in 50) for eczema, ringworm, etc., and diluted, 1 to 2, for eye-diseases.

**Hydrargyri Oxidum Rubrum, B. P.**,  $\text{HgO}$ .—An orange red powder, prepared by heating Mercurous Nitrate. Insoluble in water. Employed for indolent ulcers, etc., in the form of **Unguentum Hydrargyri Oxidi Rubri, B.P.**—1 in 10.

**Hydrargyri Perchloridum, B. P.** Corrosive Sublimate; **Hydrargyri Chloridum Corrosivum, U. S. P.**  $\text{HgCl}_2$ .—Colourless crystals, soluble 1 in 19 of water, freely soluble in spirit, ether, and glycerine. A powerful irritant and antiseptic, given internally for syphilis, and used externally as an eye-wash 1 grain in 8 ounces, as a gargle 1 grain in 4 ounces, as a lotion 1 grain in 1 ounce, for gonorrhœa and gleet 1 gr. in 8 oz., or as an ointment 2 to 8 grains to 1 ounce.

*Dose*— $\frac{1}{32}$  to  $\frac{1}{16}$  gr. (0.002 to 0.004 gm.).

Has been recommended for dysentery in India in doses of  $\frac{1}{16}$  grain every 4 hours.—*L.* '89, ii. 901.

The Liquor is recommended for diphtheria, in 1 drachm doses every hour at first, then less frequently. Results most satisfactory.—*B. M. J.*, Jan. 3, '91.

Hypodermically it has been given with complete success in cholera in India.  $\frac{1}{4}$  grain was injected into the gluteal region. Cannot be retained if given by the mouth.—*I. M. G.*, July '89.

Used in enormous quantities as an antiseptic and germicide in Bombay for cleansing plague infected areas.

**Hypodermic Tablets** contain  $\frac{1}{30}$  and  $\frac{1}{60}$  grain each. (0.001 to 0.0022 gm.)

*Official Preparations.*—Liquor 1 in 875 (*Ammon Chloride now omitted*) and Lotio Flava, 1 in 240 lime water.

*Incompatibles.*—Alkalies, Nitrate of Silver, Albumen, Lead, Tannin.

*Antidotes.*—Emetics; white of egg and water.

Corrosive Sublimate is a powerful antiseptic, 1 in 10,000 being sufficient for the destruction of bacilli. It is largely used in surgical operations, a solution 1 in 1,000 being most useful. For the ready preparation of such a solution the following are suggested:—

**Glycerinum Hydrargyri Perchloridi.**—40 grains in 1 draehm. 1 draehm in 4 pints (80 ounces) of water forms a solution 1 in 1000.

**Antiseptic Tablets.**—Of various strengths, generally coloured.

**Vaselinum Hydrargyri Perchloridi.**—1 in 100.

**Sublimate Lotiforms.**—Muslin bags containing wool charged with Mercuric Chloride, of such strength that one in a pint of water forms a lotion of 1 in 5,000. They are coloured with magenta.

**Antiseptic Cologne.**—An American speciality, contains Corrosive Sublimate (1 grain in 1 ounce) with Thyme, Eucalyptus, and Eau de Cologne. For use in sick-rooms as a spray, and similar purposes.

**Sublimate Wood Wool,**  $\frac{1}{2}$  per cent., and **Sublimate Gauze, Lint, and Wool,**  $\frac{1}{2}$  per cent., are used as antiseptic dressings.

**Sal Alembroth,**  $2\text{NH}_4\text{Cl}$ ,  $\text{HgCl}_2$ ,  $\text{H}_2\text{O}$ .—The double Chloride of Mercury and Ammonium. Crystals, freely soluble in water, spirit, and glycerine. A powerful antiseptic, and less irritating than Corrosive Sublimate, as it does not combine so readily with albumen. Has been given hypodermically for syphilis,  $\frac{1}{2}$  grain in 10 minims of water.

**Alembroth Gauze** (1 per cent.), **Wool** (2 per cent.) and **Cotton Wool Tissue** (2 per cent.) are used as dressings. They are tinted blue.

**Eucalembroth Gauze**.—Tinted with magenta, contains  $\frac{1}{1000}$  of its weight Sal Alembroth, with Eucalyptus and Castor Oils.

**Hydrargyri Persulphas**, Mercuric Sulphate  $\text{HgSO}_4$ .—A heavy white powder, used for working some kinds of medical batterie. An **Ointment** (15 grains in 1 ounce) is used for ringworm.

**Turpeth Mineral** is a yellow Oxysulphate ( $\text{HgSO}_4 \cdot 2\text{HgO}$ ) formed by decomposing the Persulphate with water.

**Hydrargyri Salicylas**.—A white powder, slightly soluble in water. Internally it is useful as an antisyphilitic: externally as a dusting powder for specific sores. *Dose*— $\frac{1}{4}$  grain (0.016 gm.)

**Hydrargyri Subchloridum, B. P.**, Calomel, Hydrargyri Chloridum Mite. D. S. P.  $\text{HgCl}_2$ .—A dull, heavy, white powder, insoluble in water. It becomes black when digested with Ammonia, Caustic Potash, or Lime.

*Official Preparations*.—**Lotio Hydrargyri Nigra**, 3 grains to 1 ounce; **Pilula Composita**, 1 in  $4\frac{1}{2}$ ; **Unguentum**, 1 in 10.

*Incompatibles*.—Iodide of Potassium, Caustic Alkalies, Nitrohydrochloric and Hydrocyanic Acids, Soap, Alkaline Chlorides.

An alterative, cholagogue (this property has been contradicted) purgative, and diuretic.

*Dose*— $\frac{1}{2}$  to 5 grains (0.032 to 0.32 gm.) as an alterative, 2 to 8 grains as a purgative.

**Hydrargyri Succinimidum**, Succinimide or Imido-Succinate of Mercury.—A white silky powder, readily soluble in water. Used hypodermically in doses of  $\frac{1}{4}$  grain for syphilis, a 1 per cent. solution being injected. It is mild, non-irritating does not precipitate albumen, and is most suitable for women and children.—*L.*, Oct. 11, '90. If Cocaine be added to diminish pain, the addition should not exceed 1 per cent., or precipitation will occur.—*Ph. J.*, Nov. 2, '88.

**Hydrargyri Tannas**, Mercurous Tannate.—A dark green colourless and tasteless powder, containing 50 per cent. of Mercury. Recommended as a remedy for syphilis. It is very



quickly absorbed into the system when taken internally, being observed in the urine 24 hours after administration. The results are rapid and satisfactory, and no irritation of the bowels as a rule is produced, so that it is possible to administer it for any length of time without disturbing the system. Should it cause diarrhoea in weekly patients,  $\frac{3}{4}$  grain Tannic Acid or  $\frac{1}{12}$  grain Opium may be added to each dose. *Dose*— $1\frac{1}{2}$  grain in pill. (0.1 gm.)

**Hydrargyri Thymolacetatas**, Thymol-Acetate of Mercury. ( $C_{10}H_{11}O$ )  $Hg_2$  ( $C_2H_3O_2$ ).—A white crystalline powder, insoluble in water soluble in spirit. Recommended as an intra muscular injection for syphilis.—*Ph. J.*, Feb. 2, '89. *Dose*— $\frac{3}{4}$  to  $1\frac{1}{2}$  grain. (0.05 to 0.1 gm.)

### HYDRASTIS RHIZOMA, B. P.

**Hydrastis; Golden Seal**.—Known also as *Indian Turmeric*, *Indian Dye*, *Orange Root*; *Yellow Root*, *Yellow Puccoon*. The dried rhizome and rootlets of *Hydrastis canadensis* (Ranunculaceae). Contains *Berberine* (see page 68), and *Hydrastine* (see below). Possesses tonic stomachic properties, and is useful in all diseases affecting the mucous surfaces, also in torpor of the liver, menorrhagia, and uterine hæmorrhages. *Dose*—10 to 30 grains (0.65 to 0.2 gm.)

**Extractum Hydrastis Liquidum**, B. P.—1 = 1 of Rhizome. *Dose*—5 to 15 minims (0.3 to 0.9 c.c.)

Applied to the throat daily, is useful in pharyngitis; similar treatment is suggested for chronic inflammation of other mucous membranes.—*L.* Mar. 16, '89.

**Extractum Hydrastis** made by evaporating the above. 2 to 5 grains. (0.13 to 0.32 gm.)

**Tinctura Hydrastis**, B. P.,—1 in 10. *Dose*—20 to 60 minims. (1.8 to 3.5 cc.)

**Hydrastin**.—The dried extractive. Consists principally of Hydrochloride of Berberine, and must be distinguished from the crystalline alkaloid, *Hydrastine*. Aperient, stomachic, and cholagogue, acts as an antiseptic to ulcers, and is useful in gonorrhœa, an injection containing 1 drachm, with 2 drachms Solution of Morphia, in 4 ounces of Mucilage, used 4 times a day.



being recommended for the last mentioned complaint. An ointment of 5 to 20 grains to the ounce, has proved serviceable in eczema. *L.* '85, ii. 87. *Dose*—2 to 6 grains.

**Hydrastina**, Hydrastine.  $C_{21}H_{21}NO_6$ . An Alkaloid occurring in Hydrastis to the extent of 1·5 per cent. In crystals resembling strychnine, insoluble in water, soluble in alcohol. Taste bitter. Useful in fever, especially typhus., *Dose*— $\frac{1}{2}$  to 1 grain (0·032 to 0·065 gm.).

**Hydrastinæ Hydrochloridum**.—A crystalline salt freely soluble in water and spirit. *Dose*— $\frac{1}{2}$  to 1 grain (0·032 to 0·065 gm.).

**Hydrastinæ Tartas Acida**. *Dose*— $\frac{1}{2}$  to 1 grain (0·032 to 0·065 gm.). White needles. Slightly soluble in water.

**Hydrastinina**, Hydrastinine.  $C_{11}H_{11}NO_2H_2O$ .—Obtained by the oxidation of Hydrastine. White needles, freely soluble in spirit, moderately soluble in water. Possesses the properties of Hydrastis in a powerful degree.

**Hydrastininæ Hydrochloridum**,  $C_{11}H_{11}NO_2HCl$ .—Freely soluble in water. *Dose*— $\frac{1}{2}$  to 1½ grain (0·032 to 0·1 gm.).

**Berberine Salts**.—See page 66.

## HYDROCOTYLES FOLIA, P.I.

**Indian Pennywort**.—The leaves of *Hydrocotyle asiatica* (Umbelliferae), common throughout India. The fresh plant has a faint aromatic odour when crushed, somewhat resembling ivy which it loses on drying. The root is said to be the most active. The constituents are oily and resinous with mucilaginous principles and tannin; collectively they are called **Vellarin**.

*Dose* of the **Fluid Extract** 1 to 5 minims (0·06 to 0·30 cc.). Alterative tonic; locally, a stimulant. It has been recommended for leprosy, but is not a specific, merely ameliorating the symptoms and improving the general health. Has been found useful in syphilis, dysentery of children, and both locally and internally for ulcers and skin diseases.

**Pulvis Hydrocotyles, P.I.**—The dried leaves powdered, 10 parts of the fresh leaves yield 1 part of powder. *Dose*—5 to 10 grains thrice daily. Sprinkled on ulcerated surfaces, it stimulates them to healthy action.

**Cataplasma Hydrocotyles, P.I.**, Hydrocotyle Poul-tice.—The fresh leaves moistened with cold water. Applied as a stimulant to syphilitic and other ulcers.

## HYDROGENII PEROXIDI LIQUOR. B.P.

**Peroxide of Hydrogen Solution.** Oxygenated water,  $H_2O_2$ .—A colourless liquid, prepared by decomposing Peroxide of Barium with Sulphuric Acid. Should contain 10 volumes of available oxygen when decomposed. **Hydrogen Peroxide** pure, sp. gr. 1.452, gives off 475 times its volume of oxygen when heated: in commerce, a more permanent compound giving off 10 to 20 times its volume of oxygen is usually met with.

One of the most powerful oxidising agents known, being used to bleach the hair and delicate fabrics which might be injured by chlorine, and also as a disinfectant. It is produced by the oxidation of various essential oils, forming the active ingredient of the disinfectant known as *Sanitas*.

It has been used in whooping cough, 1 drachm 3 times a day; in catarrhal affections, 2 drachms of a 4 per cent. solution 3 or 4 times a day; and as a pigment in diphtheria. Applied to a wound it acts as a powerful styptic.—*L. Sept. 23, '89.*

*Dose*— $\frac{1}{2}$  to 2 drachms (1.8 to 7 cc.)

**Bactericides, Kinzsett's.**—A series of liquid antiseptics composed of Peroxide of Hydrogen (5 volumes) as a basis, with some active antiseptic, as Mercuric Chloride (5 per cent.), Carbolic Acid, Sulphophenic Acid, etc.

**Ozonic Ether.**—Ether containing Peroxide of Hydrogen in solution, 30-volume strength. Has been given internally for diabotes (it oxidises the sugar), used locally for scarlet fever, and as a wash for purulent discharges. *Dose*— $\frac{1}{2}$  to 1 drachm (1.8 to 3.5 cc.).

**Sodii Peroxidum.**—A white amorphous, deliquescent powder, dissolves in water, with production of heat and oxygen.

**Pyrozone**, an American solution of Peroxide of Hydrogen in water and ether.

**Ozonised Ointment (Day).**—Contains Ozonic Ether 1 drachm in 1 ounce, with Benzoic Acid and Otto of Roses.

Rubbed over the whole body 3 times a day arrests the spread of scarlatina. Useful for rubbing over the hands and under the nails previous to making post-mortem examinations, and for accoucheurs.

**Oxygen**, inhaled as a gas, or drunk as aerated water, is much used in France as a remedy for dyspepsia, diabetes, etc. It is also inhaled as *Ethereal Oxygen*, a mixture of ether vapour and oxygen produced by adding Permanganate of Potash to Ozonic Ether in an inhaler, for whooping cough, asthma, etc.

**HYDRONAPHTHOL** —See page 211.

### HYDROQUINONE.

**Hydrochinon; Quinol; Pyrogentisic Acid: Para-di-oxy-benzeme.**  $C_6H_3(OH)_2$ —An isomeride of Resorcin and Pyrocatechin, usually obtained from coal-tar; it may be obtained from quinone or quinic acid. In crystals, soluble in water, alcohol, and ether.

A powerful and harmless antiseptic and antipyretic. It causes no irritation when injected hypodermically, and is very suitable in eye operations. Its properties are similar to, but more powerful than, those of Resorcin. It is also used as a photographic developer.

*Dose*— $\frac{1}{2}$  to 1 grain (0.032 to 0.32 gm.).

### HYDROXYLAMINE.

**Oxyammonia.**  $NH_2OH$ .—A base prepared by the reduction of Ethyl Nitrate. It has never been isolated, and is known only in aqueous solution.

One of the most powerful antiseptics known, 1 in 5,000 entirely preventing fermentation. It has been recommended in skin diseases as a substitute for pyrogallic and chrysophanic acids, the Hydrochloride being used.

**Hydroxylamine Hydrochloride.**  $NH_2 OH, HCl$ .—Crystals, soluble in water and alcohol. It usually contains a small percentage of Ammonium Chloride to render it stable. When heated to  $212^{\circ} F$ . it melts and then explodes. A solution of 2 grains in 6 ounces of spirit and glycerine, equal parts, has been recommended for ringworm, sycosis, lupus, and psoriasis.

It requires caution in its use, especially if the preparation be stronger than 1 per cent. It does not stain the skin.—*Ph. J.*, Dec. 1, '88; *C. & D.*, Mar. 23, '89; *K.* Jan. '90. It is not well suited for private practice owing to its tendency to cause irritation and toxic symptoms, and the necessity of constantly watching for such symptoms.—*Ph. J.*, Mar. 29, '90.

### HYMENODICTYON.

The bark of *Hymenodictyon excelsum* (*Cinchona excelsa*). Rubiaceæ, a tree common in Central India. It has bitter tonic and febrifuge properties, and is used as such by the natives. It contains a non-oxygenated alkaloid, *Hymenodictyonine*,  $C_{23}H_{10}N_2$ , and a bitter neutral principle. Hymenodictyonine is constitutionally related to Pyridine.

### HYOSCYAMINA.

**Hyoscyamine, C H NO.**—An alkaloid, isomeric with Atropine, occurring in *Hyoscyamus niger*, *Scopola carniolica*, *Atropa belladonna*, and other allied plants. Hyoscyamine and Atropine are readily convertible into one another.—*Ph. J.* June 16, '88. Hyoscyamine is the chief naturally existing base in the plants mentioned, and, if proper precautions be taken in extraction, the product is pure Hyoscyamine. otherwise a mixture of alkaloids is the result. Duboisine, Daturine, etc., all isomeric with Hyoscyamine, are more or less mixtures of Hyoscyamine, Hyoscine, and Atropine.—*K.*, July '90. Hyoscyamine occurs in masses of minute white crystals, slightly soluble in water, freely in spirit. It has mydriatic properties similar to Atropine, but greater, and acts as an antispasmodic in asthma, chorea, epilepsy, etc. Injected subcutaneously it acts as a hypnotic in insanity.

*Dose*— $\frac{1}{100}$  to  $\frac{1}{10}$  grain (0.00054 to 0.0016 gm.): may be increased up to  $\frac{1}{2}$  or  $\frac{1}{4}$  grain (0.008 or 0.016 gm.) or even more in acute mania.

**Amorphous Hyoscyamine.**—A dark brown extract-like substance. It is less costly than the crystallised form, and the dose is said to be about the same. Formerly it contained Hyoscine, but it appears now to consist of pure Hyoscyamine.

**Hyoscyaminæ Sulphas, B. P.**—In white granular crystals or powder, freely soluble in water. *Dose*— $\frac{1}{100}$  to  $\frac{1}{10}$  grain (0.00032 to 0.00065 gm.).

**Injectio Hyoscyaminæ Hypodermica.**—Strength 1 in 120. *Dose*—1 to 2 minims (0·06 to 0·12 cc.).

**Hypodermic Tablets** contain  $\frac{1}{30}$  and  $\frac{1}{60}$  grain each.

**Hyoscyaminæ Hydrobromidum.**—*Dose*, etc., similar to Sulphate.

**Hyoscina, Hyoscine.**  $C_{17}H_{27}NO$ .—A colourless syrupy fluid, maintained by some to be the principal, if not the entire, constituent of Amorphous Hyoscyamine. It is isomeric with Hyoscyamine, and is contained in *Hyoscyamus niger* and *Duboisia myoporoides*. It occurs in the mother-liquor from which Hyoscyamine has been crystallised. The name Hyoscine was formerly applied to a base, subsequently proved to be Tropine (see page 60). Hyoscine boiled with water splits up into tropic acid and pseudotropine. Only its salts are used medicinally.

**Hyoscine Hydrobromidum**—White crystals, freely soluble in water. *Dose*— $\frac{1}{200}$  to  $\frac{1}{100}$  grain (0·00032 to 0·00065 gm.). Very valuable in insomnia and mania, has no effect on the respiration. It must be distinguished from the Hyoscyamine salt. Locally it is a rapid and brief mydriatic. It is very apt to produce toxic symptoms; Pilocarpine, Caffeine, and stimulants are the best antidotes.

The **Hydrochloride** and **Hydriodide** are similar to the Hydrobromide, and given in the same doses.

**Injectio Hyoscineæ Hypodermica.**— $\frac{1}{2}$  per cent. *Dose*—1 to 2 minims. (0·06 to 0·12 cc.).

**Hypodermic Tablets** contain  $\frac{1}{200}$  and  $\frac{1}{100}$  grain each.

**Liquor Hyoscineæ Hydrobromidi.**—1 in 1,000 of Chloroform water. *Dose*—3 to 15 minims (0·18 to 0·9 cc.).

## HYPNAL.

**Monochloral-Antipyrin; Trichloraldehyde-phenyl-dimethyl-pyrazole.**— $C_{11}H_{11}N_2O_2Cl$ .—Obtained by mixing solutions of Chloral Hydrate and Antipyrin, and purifying the product which separates (see page 48). It is met with in colourless crystals, soluble in 6 times their weight of warm water, and free from odour or caustic taste.

Its action is that of Antipyrin and Chloral combined, that is, it is hypnotic and sedative. It is specially useful in insomnia caused by pain, as well as for relieving spasmodic cough.—*M. R.*, Oct. '90.

*Dose*—1 gramme (15½ grains).

**HYPNONE.**—See page 3.

### HYPNOACETIN.

A compound of Hypnone (acetophenone) and amidophenol. Hypnotic and antithermic. Soluble in alcohol and ether. Its action is similar to the combined actions of Hypnone and amidophenol. *Dose*—3 grains.—*B & C. D.*, Aug. 23, '95.

### ICHTHYOL.

**Sulpho-Ichthyolate of Ammonium.**—A brownish bituminous substance, with a disagreeable tarry odour. Obtained from the oil distilled from certain fossil deposits containing fish (hence its name—Ichthyol), and which occur in the Tyrol, by treating with Sulphuric Acid and neutralising with Ammonia. It contains about 15 per cent. of Sulphur. It is soluble in water, or a mixture of alcohol and ether.

A valuable remedy for acne, eczema, etc., applied as an ointment, 20 to 50 per cent., with Vaseline or Lanolin. In combination with Chrysarobin it has been successfully used for leprosy, an ointment containing 5 per cent. of each, with 2 per cent. Salicylic Acid being used. Internally it has been given for neuralgia, catarrh, rheumatism, and constipation, and very successfully in one case of diabetes.—*H.*, July, '90.

*Dose*—10 to 30 grains daily (0.65 to 2 gm.).

**Capsules** contain 4 grains (0.25 gm.) each. *Dose*—1 or 2.

**Collodium Ichthyol** —1 in 8.

**Ichthyol Soap** (superfatted) has been recommended for dermatitis arising from walking or horse-back riding.

The Ammonia combination as above is known as 'Ichthyol,' but other compounds, known, respectively, as—

**Lithii Sulpho-ichthyolas**, Lithium-Ichthyol, and

**Sodii Sulpho-ichthyolas**, Sodium Ichthyol, Natrium Sulpho-ichthyolicum—possess the same properties as Ichthyol, are given in the same doses, and used in the same manner.

**Zinci Sulpho-ichthyolas**, is only used externally.

**Unguentum Ichthyol**, 20 to 50 per cent. with lanoline.

**Ichthalbin**.—A combination of Ichthyol and albumen. A delicate greyish brown, odourless and almost tasteless powder, insoluble in acid, but soluble in alkaline liquids. Suitable for internal use in place of Ichthyol. Four parts of Ichthalbin equal three parts of Ichthyol. *Dose*—15 to 30 grains daily (1 to 2 gm.).

**Thiol**, German Ichthyol.—An artificial representative of the natural Ichthyol, prepared from gas oil and sulphur. It is soluble in alcohol and ether, also in water, from which it is precipitated by acids. Ammonium and Sodium salts may be prepared, resembling the natural Ichthyol, and useful for the same purposes. Thiol is met with in two forms—**Dry** (in black scales) and **Liquid**—the latter containing about 40 per cent. of the former, which may be prepared from it by evaporation. An ointment of Liquid Thiol, 1 in 8; also a dusting powder of Dry Thiol 1, with Starch 1, Oxide of Zinc 2, and Talc 16, have been used.—*A. & D.* May 4 '89.

*Dose of Dry Thiol*—2 to 10 grains. (0·13 to 0·65 gm.).

**Tumenol** from mineral oil, similar to Thiol, a black thick viscid substance, miscible with water. Used in acute eczema, *Tumenol oil* and *Tumenol Powder*, constituents of the above, are also prepared.

## INGLUVIN.

**Ingluvin**.—An American preparation, prepared from the gizzard of the fowl, *Pullus gallinaceus*. It is put forward as a substitute for Pepsin, being prescribed in the same manner and combinations as the latter. It is recommended as a specific for the vomiting of pregnancy, and as a powerful and reliable remedy for the cure of indigestion, dyspepsia, etc. *Dose*—10 to 30 grains.

## INULA, U.S.P.

**Elecampane**.—The root of *Inula Helenium* (Compositæ) contains the following principles :—



**Inulin.**—A body allied to starch. It is a-omatic, tonic, stimulant, and expectorant, and has been used in dyspepsia, chronic pulmonary affections, etc. *Dose*—1 to 3 grains (0.065 to 0.2 gm.)

**Helenin.**  $C_6H_5O$ .—A stearoptene obtained from the root in acicular crystals, nearly insoluble in water, freely soluble in alcohol. It is a very powerful antiseptic, 1 in 10,000 arresting putrefaction, and has been used for surgical dressings. Internally it is used for malarial fevers and various forms of diarrhoea. It keeps away insects, especially mosquitoes. An oily solution has been found useful as a paint in diphtheria. Has also been found very valuable in phthisis.—*K.*, Jan. 10, '90. *Dose*— $\frac{1}{3}$  to 2 grains (0.02 to 0.13 gm.).

Crude Helenin is a mixture of two somewhat similar bodies, pure Helenin and Inula Camphor.

**Alantol or Alant Camphor** ( $C_{10}H_{16}O$ ).—An aromatic liquid obtained from Elecampane. Its medicinal properties are similar to Helenin.—*Ph. J.*, Apr. 2, '87.

**Alantic Acid.**  $C_{15}H_{22}O_4$ .—A white crystalline body, also obtained from Elecampane, soluble in alcohol, insoluble in water, but forms soluble salts with alkali. A powerful antiseptic.

The above two bodies are obtained from the plant as a mixture which is said to be more powerful than Helenin as a remedy for tuberculosis.—*Ph. J.*, Apr. 2, '87.

## IODOFORMUM, B.P.

**Iodoform.**  $CHI_3$ .—Prepared by the action of Iodine on an alcoholic solution of Carbonate of Potassium, or by acting upon Acetone with Hypochlorite of Sodium in the presence of an Iodide.—*Ph. J.*, Mar. 2, '89.

A yellow, minutely crystalline powder, or in crystalline scales, with a persistent disagreeable odour. This form is recommended for surgical purposes in preference to **Precipitated Iodoform**, which has a tendency to form clots; the latter is more suitable for ointments insufflations, etc., being an impalpable powder. Insoluble in water, soluble in ether, chloroform, colloidion, and oil of eucalyptus; about 1 in 100 of rectified spirit,

1 in 30 of olive oil, 1 in 3 of bisulphide of carbon. Precipitated Iodoform sometimes gives a turbid solution in chloroform or carbon bisulphide, owing to adherent water.

Iodoform is widely used as a disinfectant, antiseptic, and anæsthetic. It is also used internally to relieve the pain of gout, etc. Combined with Cod Liver Oil it has been recommended for phthisis and scrofula. In ulcer of the stomach, given in conjunction with nutrient enemata, it stops the vomiting.  $\frac{3}{4}$  grain, from 3 to 5 times daily, acts as an internal styptic in hæmorrhage from the lungs. *Dose*— $\frac{1}{2}$  to 3 grains (0.032 to 0.2 gm.)

Various substances have been used to make the disagreeable odour of Iodoform with more or less success; Coumarin, Crocin, Eucalyptus, Musk, Balsam of Peru, Oil of Geranium, etc., have all been used.

**Iodoformum Aromaticum** contains 2 per cent. of Coumarin (see page 115).

**Anozol**, a mixture of Iodoform and Thymol, about 1 to 10.—A. M. S. B., Sept. 25. '97.

Iodoform has been known to cause eczema when used as a gauze or ointment, on an irritable surface.—*L.*, April 6, '89.

*Antidote*.—Bromide of Potassium.—*T. G.*, Sept. '89.

*Preparations of Iodoform*.—

**Suppositoria Iodoformi**, B. P.—3 grains each.

**Unguentum Iodoformi**, B. P.—1 in 10.

**Bougies of Iodoform** (Nasal).— $\frac{1}{6}$  to  $\frac{1}{8}$  grain in each with Gelato-Glycerine.

**Collodium Iodoformi**.—5 grains in I drachm.

**Insufflatio Iodoformi**. Iodoform 2, Starch 1. Antiseptic and mildly caustic.

**Iodoform Emulsion**.—Iodoform 3, triturated with starch powder 1, glycerine 20, and water 12; warm slightly. The emulsion is permanent.

**Iodoform and Eucalyptus Bougies**.—Iodoform, 5 grains; Oil of Eucalyptus, 10 minims; Oil of Theobroma, 35 grains, to make a bougie 4 inch long, and the size of a No. 10

catheter. Used for acute gonorrhœa. The Bougies must be kept in cold water.

**Iodoform Gauze.**—20 per cent. Relieves the pain of burns, etc. Some samples of Iodoform Gauze rapidly acquire a greenish colour, due to liberation of Iodine and formation of Iodide of Starch. This is not an indication of impurity, but rather the reverse; impurities in Iodoform tend to retard its decomposition.—*Ph. J.*, Feb. 2, '89.

**Iodoform Lint**, 10 per cent. and **Wool**, 10 per cent. are also prepared; the latter is increased to 50 % for affections of the ear.

**Pastillus Iodoformi.**—1 grain each, for syphilitic eruptions of the month and chronic pharyngitis.

**Pilula Iodoformi.**—2 grains each (0·13 gm.)

**Suppositoria Iodoformi, B.P.**—3 grains each (0·2 gm.)

**Unguentum Iodoformi, B.P.**—1 in 10.

**Plaster Mulls** contain 50 per cent.

**Unguentum Iodoformi et Eucalypti.**—1 in 10 with Oil of Eucalyptus. Also made with Vaseline and ternerd **Iodo-Vaseline**. An ointment flavoured with **Rose** is also made, 5 grains to 1 ounce, for nasal affections.

**Unguentum Iodoformi cum Atropina.**—Iodoform, 60 grains, and Atropine, 2 grains, in 1 ounce of Vaseline.

**Iodoformum Bituminatum.**—A compound of Iodoform and Tar, occurring in transparent scales of a brown metallic colour, easily pulverizable, has been recently introduced. The combination with Tar diminishes the volatility of the Iodoform as well as disguises its disagreeable odour. It is useful as an application to ulcers, etc., being used for the same purposes as Iodoform.

**Di-iodoform.**—Occurs in golden needle shaped crystals free from odour, made by acting upon acetylene peroxide with iodine. Insoluble in water, sparingly soluble in alcohol and ether, readily soluble in chloroform and benzine. The preparation must be kept in the dark as iodine is set free when it is exposed to the light. Next to Iodoform it contains more iodine than other known antiseptic. Used in the same manner as Iodoform for external application.

**Iodoformal.**—A compound of Ethyl-hexamethylene hydriodide, and Iodoform, used as a substitute for the latter.

**Iodoformin** contains 75 per cent. Iodoform, a compound of Iodoform and hexamethylenetetramine, a white powder, insoluble in water.

**Eka Iodoform.**—Iodoform to which has been added 0.05 per cent. of formaldehyde, said to increase its germicidal properties.—*B. Ph.* Feb. '93.

**Iodoformogen.**—A compound of Iodoform and Albumen. A fine bronze yellow powder insoluble in water, nearly odourless. Does not become lumpy. A substitute for Iodoform.

## IODOCAFFEINE

**Sodium Caffeine Iodide.** A compound of Caffeine with Iodide of sodium.—A clear white powder without taste or odour. Slightly soluble only in cold water. Contains 65 per cent. of Caffeine. *Dose*—2 to 10 grains (0.13 to 0.65 gm.) It and the two following salts are apt to decompose.

**Iodotheine**, prepared in the same way, occurs as a white powder.

**Iodol. Tetra-Iodo-Pyrrol.**  $C_4I_4NH$ .—A brownish-coloured anorphous or finely crystalline powder prepared by precipitating Pyrrol (obtained from animal oil) with Iodo-iodide of Potassium. Possesses the properties of Iodoform without its unpleasant odour or anæsthetic toxic effects. It contains about 90 per cent. of Iodine and is used like Iodoform for dressing ulcers, etc. Iodol is almost insoluble in water but soluble in glycerine, alcohol, ether, and fats.

*Dose*—1 to 3 grains (0.065 to 0.2 gm.)

Iodol has been successfully used for chronic bronchitis in place of Iodide of Potassium. The elimination of Iodine is slower and its effects more lasting.—*T. G.*, Jan. '89.

**Collodium Iodol**, 1 in 12, is a good form of application.

**Menthiodol.**—See page 200.

**Soziodol.**—See page 279.

## IODUM, B.P.

**Iodine.** I.—A non-metallic element obtained chiefly from the ashes of sea-weeds, also manufactured from mineral iodides and iodates. In dark laminar crystals, with a metallic lustre and irritating odour, readily volatilising with heat, forming a beautiful purple vapour. Nearly insoluble in water, but rendered soluble by the addition of a soluble iodide; soluble in ether, chloroform spirit, and bisulphide of carbon.

Iodine is employed as an antiseptic, alterative, rubefacient, and as a stimulant to the lymphatic system. In chronic inflammation, glandular enlargements and skin diseases it is a good application, as an inhalation or gargle it is used for bronchitis and throat affections. Applied to the abdomen it has been found useful in ascites.

Iodine applications have been found very efficacious in erysipelas, applied 3 or 4 times a day.—*L.*, April 6, '89.

*Dose*— $\frac{1}{2}$  grain (0.032 gm.), gradually increased.

*Antidotes.*—Emetics demulcent drinks; Morphine hypodermically to relieve pain.

The presence of free Iodine may be readily recognised by adding a few drops mucilage of starch: a deep blue colour is produced which disappears on boiling, and reappears on cooling if the liquid has not been boiled too long.

*Incompatibles.*—Metallic salts which form insoluble Iodides: Ammonia (decolorises); Alkaloids.

Iodine imparts to the skin a brown stain which may be removed by ammonia or hyposulphite of sodium.

*Preparations*—

Liquor Iodi Fortis, B.P. ... 1 in 8

(Replaces *Liq. Iodi*, B.P., 1885. *Glycerine is omitted and the Iodide of Potassium slightly increased*).

Tinctura Iodi, B.P. ... 1 in 40

*Dose*—2 to 5 minims (0.12 to 0.3 cc.)

Unguentum Iodi, B.P. ... 1 in 24

Vapor Iodi ... 1 to 8

**Carbolised Iodine Solution.**—See page 8.

**Collodium Iodi.**—30 grains to 1 ounce. The film formed by the Collodium not only protects the part but prevents the volatilization of the Iodine, thereby sustaining its action.

**Glycerinum Iodi.**—1 to 50. The skin does not harden or peel off by repeated applications of this pigment.

**Iodo-Glycerine Solution** (Morton's).—10 grains in 1 ounce, with Iodide of Potassium. For *spina bifida*, 30 minims to be carefully injected into the tumour—*B.M.J.*, '85, i. 1898.

**Injectio Iodi Hypodermica Fortissima.**—Contains  $\frac{3}{4}$  grain Iodine in one minim. *Dose*—3 to 5 minims (0.18 to 0.30 cc.) for fibrous bronchocele.

**Liquor Iodi, B.P., 1885** (Lugol's solution with Iodide of Potassium)—1 in 20.

**Oleum Iodi**, Iodised Oil.—Non-irritant, does not stain and is readily absorbed.

**Papier Iodogene.**—A French preparation consisting of paper impregnated with iodate and iodide of potassium and tartaric acid. On wetting the paper and applying to the skin, Iodine is liberated, which in its nascent state is believed to act more powerfully.—*Ph. J.*, June 8, '89.

**Iodised Phenol.**—See page 8.

**Pigmentum Iodi.**—Iodine 2, Iodide of Potassium 1. Glycerine 4. To destroy vegetable parasites.

**Pigmentum Picis cum Iodo** (Coster's Paste).—Consists of Iodine 2 dr. dissolved in Light Oil of Wood Tar (Ol. Picis Rect.) 1 ounce. A chemical combination being formed, the irritating properties of free Iodine are got rid of. The paste may also be prepared from Creasote or *Huile de Cade*, but the resulting compounds are more irritating.

*Directions.*—Shake the bottle and apply with a stiff brush. After several days remove the scab which has formed, cleanse the part first with oil, and then with soap and warm water, dry, and apply more paste.

An excellent application for ringworm of the scalp.

**Tinctura Iodinei** (Edinburgh Pharmacopœia).—1 in 16 Not miscible with water.

**Tinctura Iodi Ætherea.**—Same strength as *B. P.* Tincture, but made with Ether. See note, page 87.

**Tinctura Iodi Decolorata, B. P. C.**—In this the colour is discharged by means of Liq. Ammon. Fort., so as to render it more suitable for exposed surfaces. Strength about the same as the *B. P.* Tincture. The same preparation, before being diluted with spirit, is known as **Tinctura Iodi Decolorata Fortior.** It is about 3 times as strong.

**Tinctura Iodi Oleosa.**—Iodine 1. Rectified spirits 9 ounces, Castor oil 2 ounce. Does not crack the skin.

**Amyli Iodium,** Iodised Starch. *Amylum Iodatum, U. S. P.*—Iodine 5, Starch 95. A deep blue-black powder. Used in place of Iodoform, also as an internal remedy for syphilis, the dose being pushed until free Iodine can be detected in the urine. Also in lupus erythematosus, and as an antidote for such poisons as alkaloids, sulphuretted hydrogen, ammonia, and caustic alkalies. *Dose*— $\frac{1}{2}$  to 4 drachm (2 to 16 gm.)

**Pasta Amyli Iodidi.**—For cleansing foul syphilitic and other sores.

**Vapor Iodi Ætherealis.**—Contains Iodine, Ether, Creasote (or Thymol), Carbolic Acid, and Rectified Spirit. For respirators.

**Iodised Wine.**—·04 per cent. *Dose*— $\frac{1}{2}$  to 2 ounces (15 to 60 cc.)

**Iodised Wool.**—25 per cent.

**Syrupus Acidi Hydriodici, U. S. P.**—Contains 1 per cent. of absolute Hydriodic Acid. *Hl. Dose*—20 to 60 minims. (1·2 to 3·5 cc.) A mild preparation of Iodine.

**Iodo-Salicylic acid, and Di-iodo-salicylic Acid.**  
—See page 20.

**Iodides.**—See INDEX.

**Iodopyrin.** Iodantipyrin—A derivative of antipyrin, white colourless needles, without taste or odour. Slightly soluble in cold water and alcohol. Said to rapidly lower temperature and promote diaphoresis in Typhus fever. *Dose*—5 to 20 grains (0·32 to 1 gm.)



**Iodozone.**—A new disinfectant from which the Iodine is set free on exposure to the air with the simultaneous formation of Ozone—*B. and C. D.*, 22 August '94.

**Iodphenin.**—See page 15.

**Liquor Calcis Iodinatæ.**—A solution of a compound of Iodine and Lime, analogous to Liquor Calcis Chlorinatæ. It contains 16 grains Iodine to 1 ounce, and is colourless. On addition of an acid Iodine is liberated. It is used as a form for administering Iodine, and for applying externally. Also used, diluted, as a gargle. As a test for urine, it gives a red Iodine colour with acid urine, and a white precipitate of phosphate of calcium with alkaline urine. *Dose*—5 to 20 minims. (0·30 to 1·2 cc.)

**Periodates** (Weaver's).—A mixed product in white granular powder, consisting of several of the salts of Periodic Acid (HIO<sub>5</sub>), slightly soluble in water, from which morphine solution liberates Iodine. Recommended as an antiseptic and disinfectant, odourless and non-poisonous. *Dose*—1 to 15 grains. (0·065 to 1 gm.)

## **IPECACUANHA, B. P.**

**Ipecacuanha.**—The dried root of *Psychotria Ipecacuanha* (Rubiaceæ), from Brazil. Its active ingredient is an alkaloid, *Emetine* (see below).

Ipecacuanha is diaphoretic and expectorant in small doses, and emetic in large doses. In dysentery it is largely used, given in doses of 30 to 40 grains, either alone or combined with opium.

The root bark contains **Emetine**, a mixture of alkaloids, and **Ipecacuanhic Acid**, the former being the emetic principle. Later researches show *Emetine* to be composed of two principal alkaloids, *Emetine* and *Cephaline*, both of which have emetic properties. *Emetine* is a white amorphous powder (see below).

**Pulvis Ipecacuanhæ sine Emetina.**—As a remedy for dysentery, this preparation from which the alkaloid alone has been extracted has been found equally efficacious, without causing nausea or vomiting. *Dose*—10 to 30 grains (0·65 to 2 gm.)

Ipecacuanha may be combined with a Bromide or Chloral to send the patient asleep before nausea sets in.—*M. R.*, Oct. '90.

*Dose*—As an expectorant  $\frac{1}{4}$  to 2 grains. (0·016 to 0·13 gm.); as an emetic, 15 to 30 grains. (0·1 to 2 gm.)

Applied as a poultice to the bites and stings of insects, it allays the pain and irritation. A spray of the Wine has been recommended for chronic bronchitis and asthma.

*Preparations—*

**Pulvis Ipecacuanhæ Compositus, B. P.** (Dover's Powder)... .. Opium 1, Ipecac. 1, in 10.  
*Dose*—5 to 15 grs. (0·32 to 1 gm.)  
**Trochisci Ipecacuanhæ** ... ..  $\frac{1}{4}$  grain (0·016 gm.) each.  
**Trochisci Ipecacuanhæ et Morphinæ** ... See page 207.

**Vinum Ipecacuanhæ, B.P.**—1 in 20. *Prepared from standardized Liquid Extract.* *Dose*—as an expectorant, 10 to 30 minims (0·6 to 1·8 cc.); as an emetic, 4 to 6 drachms (0·13 to 0·22 cc.)

**Acetum Ipecacuanhæ, B.P.**—1 in 20. *Dose*—5 to 30 minims as an expectorant. (0·3 to 1·8 cc.)

**Syrupus Ipecacuanhæ Aceticus, B.P.C.** *Dose*— $\frac{1}{2}$  to 2 drachms. (0·9 to 7 cc.)

**Pilula Ipecacuanhæ cum Scilla.** *Dose*—4 to 8 grains (0·26 to 0·52 gm.)

**Extractum Ipecacuanhæ Liquid, B.P.**—1 = about 1 of Root.

*Dose*—As an expectorant  $\frac{1}{2}$  to 2 minims (0·03 to 0·12 cc.); as an emetic 15 to 20 minims. (0·7 to 1·2 cc.)

*Standardized to contain 2 to 2½ per cent of the alkaloids of Ipecacuanhæ Root.* It is used for preparing Acetum Ipecacuanhæ and Vinum Ipecacuanhæ.

**Emetina, Emetine, Emetia.**—A whitish amorphous powder, sparingly soluble in water, soluble in chloroform, spirit, and dilute acids. Applied locally it irritates the skin, producing pustules. Used as an emetic, etc. *Dose*— $\frac{1}{250}$  to  $\frac{1}{50}$  grain (0·00032 to 0·0013 gm.) as an expectorant;  $\frac{1}{4}$  to  $\frac{1}{2}$  grain (0·01 to 0·02 gm.) as an emetic. Ipecacuanha yields about 2 per cent. of this crude Emetine.

**Emetine Hydrochloride.**—Soluble in water and alcohol.

**Emetine Hydrobromide.**—Soluble in water, but much less so than the hydrochloride.

**Cephæline.**—A erystalline alkaloid less soluble in ether than Emetine, darkens on exposure. Soluble in caustic alkalis which distinguishes it from Emetine.

**Emetin.**—An extractive substance, soluble in water, has properties like the root. *Dose*— $\frac{1}{15}$  to  $\frac{1}{10}$  grains (0·0043 to 0·0065 gm.) as an expectorant;  $\frac{1}{2}$  to 1 grain (0·032 to 0·065 gm.) as an emetic.

**Trochisci Morphine et Emetin.**— $\frac{1}{10}$  grain Morphine and  $\frac{1}{80}$  grain Emetin in each—*M.*

Emetin must be distinguished from *Emetine*.

**Goanese Ipecacuanha.**—The stem and roots of *Naregamia alata* (Meliaceæ), a plant common in Western India, and known by the Goanese as *Trifolio*. It is now being cultivated on the Nilgiris. It possesses emetic properties similar to those of Ipecacuanha, and has been used with great success in dysentery and as an expectorant. In Southern India it is used as a remedy for rheumatism and itch. Further trials of this drug have recently been made, the results of which are sufficiently satisfactory to encourage its further use.—*Ph. J.*, Dec. 15, '88. *Doses*—Same as Ipecacuanha.—*Pg. Ind.*, i. 333; *Ph. J.*, Oct. 15, '87.

The best preparations are a **Tincture** (1 to 8), given in doses of 5 to 20 minims as an expectorant, and 2 to 4 drachms as an emetic; and a **Liquid Extract**, in doses of 45 to 75 minims in water or Aqua Laurocerasi. Naregamia contains an alkaloid, *Naregamine*, which differs from Emetine in not giving any colour with chlorinated lime and acetic acid.—*Hooper*.

## IRIDIN.

**Irisin.**—The brown powdered extractive from the root of blue flag. *Iris versicolor* (Iridaceæ). Has cathartic, alterative, and diuretic properties, and is given in biliary disorders. It is gentler in action than Podophyllin, and combined with Euonymin is a mild aperient and cholagogue. Also useful in vomiting of pregnancy. *Dose*—1 to 5 grains (0·065 to 0·32 gm.) at bed-time, followed by a saline aperient in the morning.

## ISPAGHUL SEEDS P.I.

The seeds from *Plantago ovata* (Plantaginæ). A Persian

herb, cultivated in India—Ovate elliptical, concave, about  $\frac{1}{8}$  of an inch long, of a greyish colour. They yield to water an abundance of tasteless mucilage. Used in doses of 2 or 3 drachms, or in the form of decoction they are useful in febrile, catarrhal and renal affections, but their chief use is in diarrhœa and dysentery.

The bruised seeds moistened with water form a good emollient poultice.

### IZAL.

A proprietary article. A white emulsion of tarry hydrocarbons used as a non-poisonous antiseptic and disinfectant.

### JABORANDI, B.P.

**Jaborandi; Pilocarpi Folia.**—The dried leaflets of *Pilocarpus pennatifolius* (Rutaceæ), from Brazil. A powerful sudorific and sialogogue; large doses contract the pupil of the eye. It has been successfully used in asthma, Bright's disease, diabetes, and as an antidote to Belladonna and Atropine, to which it is physiologically antagonistic. It also promotes the growth of the hair in alopecia, and is an ingredient in many hair-washes.

Jaborandi owes its activity to a liquid alkaloid *Pilocarpine*,  $C_{16}H_{16}N_2O$ , it also contains *Pilocarpidine*,  $C_{10}H_{14}N_2O$  (which is supposed to be dihydroxynicotine, as it differs from nicotine by two atoms of oxygen), *Jaborine* and *Jaboridine*. The last two are derivatives of Pilocarpine and Pilocarpidine respectively, and are antagonistic to them in action. Pilocarpidine and Pilocarpine have been synthetically prepared from pyridine.

**Extractum Jaborandi.** (Solid). *Dose*—2 to 10 grains (0.13 to 0.65 gm.)

**Extractum Jaborandi Liquidum, B. P.**—Liquor Jaborandi.—Not miscible with cold water. *Dose*—5 to 15 minims (0.3 to 0.9 cc.) in water.

**Tinctura Jaborandi, B.P.**—1 in 5. *Dose*—30 to 60 minims (1.8 to 3.5 cc.) To check night-sweating 5 to 20 minims, 3 times a day, or at bed-time.

Jaborandi acts in about 10 minutes, its action lasting 4 or 5 hours, while the body temperature usually falls  $0.4^{\circ}$  to  $1.4^{\circ}$  F. The alkaloid injected hypodermically acts in 3 to 5 minutes. Jaborandi acts less easily on children than adults.—*Ring*.

**Pilocarpina.** Pilocarpine.—A colourless, liquid, odourless alkaloid, which is not used medicinally. It forms crystallisable salts with acids.

**Pilocarpinæ Nitras, B.P.**—A white crystalline powder, freely soluble in water. Properties similar to Jaborandi. *Dose*—As Hydrochloride (see below).

**Injectio Pilocarpinæ Nitratis Hypodermica.**—1 grain in 20 minims. *Dose*—2 to 6 minims (0·12 to 0·35 cc.)

**Hypodermic Tablets** contain  $\frac{1}{10}$ ,  $\frac{1}{5}$ , and  $\frac{1}{2}$  grain each.

**Guttæ Pilocarpinæ.**—2 grains to 1 ounce. Used to contract the pupil.

**Pilocarpinæ Hydrochloridum.** Pilocarpinum Hydrochloride, P.G.—Freely soluble in water. *Dose*— $\frac{1}{10}$  to  $\frac{1}{2}$  grain (0·0032 to 0·032 gm.) by the mouth or  $\frac{1}{10}$  to  $\frac{1}{2}$  grain (0·0065 to 0·02 gm.) hypodermically.

Pilocarpine salts in large doses are powerfully diaphoretic, small doses ( $\frac{1}{20}$  grain) check night-sweats. In kidney disease and dropsy, small doses are sialagogue and diaphoretic. Also useful in intermittent fever, diabetes, severe hiccough (checked by  $\frac{1}{4}$  grain) and syphilis.

$\frac{1}{4}$  grain Pilocarpine with stimulants acted as an efficient antidote to half an ounce of Belladonna Liniment, swallowed by mistake 4 hours previously.—*Ph. J.*, Mar. 1, '90.

The Hydrochloride in doses of  $\frac{1}{4}$  and  $\frac{1}{2}$  grain, hypodermically, proved of great value in Bright's disease. Infusion of Jaborandi was also useful, but excited nausea.—*L.*, Dec. 22, '88.

Pilocarpine is also very useful as a galactagogue.

**Pilocarpine Phenas.**—Pilocarpine carbolate (Aseptoline).—A colourless oily liquid, soluble in water and alcohol.

**Pilocarpine Salicylas.**—Small colourless crystals, with bitter taste, soluble in water.

*Dose*— $\frac{1}{10}$  to  $\frac{1}{2}$  grain (0·0032 to 0·032 gm.)

## JAMBOLANÆ SEMINA.

**Jambul.**—The dried seeds of *Eugenia Jambolana* (*Syzygium Jambolanum*). Myrtacæ, a tree very common in India, yielding an edible sub-acid fruit, astringent when unripe. A remedy of old repute in India among native physicians, a decoction of the

bark and a syrup from the ripe fruit being used as astringents in chronic diarrhoea and dysentery, as also in the form of astringent gargles, etc. The seed has a reputation as a remedy for diabetes, and is believed to check the diastasic conversion of starch into sugar in that form of disease depending on increased production of glucose. A liquid extract, when properly prepared by re-percolation with a weak alcoholic menstruum, is the most suitable preparation. Fresh seeds, freed from their pericarp (skin and pulp), should only be used, and no heat employed.

*Dose*—5 to 40 grains or more.

Jambul appears to contain an unstable glucoside, *Jambulin* (which also contains Gallic acid), to which the anti-diabetic effects of the seeds are due. This substance being very unstable the necessity of using fresh seeds carefully dried is apparent, the seeds as obtained in the bazaar being usually quite inactive.

**Extractum Jambolanæ Liquidum.** *Dose*— $\frac{1}{2}$  or 2 drachms, 3 times a day (1·8 to 7 cc.)

**Jambul and Gluten Biscuits**, containing 30 grains (2 gm.) in each, are also prepared. *Dose*—4 to 6 biscuits, 3 times a day.

## JALAPA, B.P.

The dried tubercles of *Ipomœa Purga* (Convolvulacca) contains, as its principal ingredient *convolvulin*, constituting all but a small part of Resina Jalap, B.P. Jalap is now cultivated in Mussoorie and in the Nilgiris, and is said to give an equal yield of the active resinous principles with the best Jalap imported.

**Jalapin**, English, consists of the mixed decolorized Resins. The official Resin is said to be more active.

**Extractum Jalapæ, B.P.** *Dose*—2 to 8 grains (0·13 to 0·52 gm.)

**Pulvis Jalapæ Compositus.** *Dose*—20 to 60 grains (1·3 to 4 gm.)

**Jalapæ Resina, B.P.** *Dose*—2 to 5 grains (0·13 to 0·32 gm.)

**Tinctura Jalapæ, B.P.**—Standardized to contain 15 per cent. Resin. *Dose*— $\frac{1}{3}$  to 1 drachm (1·8 to 3·5 cc.)

## JATAMANSI.

**Valeriana Jatamansi, Spikenard.** The rhizome of



*Nardostachys Jatamansi* (Valerianaceæ), a Himalayan plant, contains a volatile oil possessing properties similar to Valerian, and is used in place of that drug for epilepsy, etc. The oil is popularly believed to increase the growth and blackness of the hair.

*Dose*—45 grains (3 gm.)

**Oleum Jatamansi.**—Used in the same manner as Oil of Valerian. *Dose*—2 to 6 minims (0·12 to 0·35 cc.)

## JUGLANS, U. S. P.

**Butternut; White Walnut.**—The inner bark of the root of *Juglans cinerea* (Juglandaceæ). A mild cathartic, causing no griping, and useful in habitual constipation. Acts also as a hepatic stimulant.

**Extractum Juglandis Fluidum.**—Not miscible with water. *Dose*—1 to 2 drachms.

**Juglandin.**—The powdered Extractive. *Dose*—1 to 5 grains or more.

The walnut, *Juglans regia*, has been recommended as an anti-spasmodic and for checking the vomiting of pregnancy, and a spirit distilled from the nut, **Spiritus Nucis Juglandis**, is given for that purpose in doses of 1 to 4 drachms.—*M.*

## KAIRIN.

**Kairine; Oxychinoline-Ethyl Hydride.**  $C_{10}H_{13}NO$ .—A synthetically prepared alkaloid, the **Hydrochloride** of which is used in medicine. In white crystals, soluble in water, and having a bitter nauseous taste. It is a powerful anti-pyretic, but its nauseous taste has caused it to give place to other anti-pyretics.

*Dose*—5 to 8 grains (0·32 to 0·52 gm.)

## KALADANA, P. I.

The seeds of *Pharbitis nil* (*Ipomœa hederacea*) Convolvulacæ a plant common throughout India. They act as a cathartic similarly to Jalap for which they have been used as a substitute. Kaladana contains a **Resin** (*Pharbitisin*) similar to Resin of Jalap, given in doses of 4 to 8 grains.—*K.*, July '90.



**A Tincture, Extract, and Compound Powder,** are also official in the *P. I.*, and are intended to take the place of similar *B. P.* preparations of Jalap, but the Resin is the most satisfactory preparation.

### KAMALA.

A powder which consists of minute glands which cover the capsules of *Mallotus Philippinensis* (*Rottlera Tinctoria*) Euphorbiace, used as an orange brown dye for silk. It is quite insoluble in water, but soluble in alcohol and ether. Its principal use is as an anthelmintic for the expulsion of tape-worm in doses of 2 or 3 drachms (0·8 to 0·12 gm.) In these doses it acts freely on the bowels, causing in many cases considerable nausea and griping.

### KAOLIN, B. P.

**China Clay; Porcelain Clay; Bolus Alba, P. G.**—A Silicate of Aluminium which occurs naturally in some parts of England. When finely ground and purified, it forms a useful absorbent dusting powder for infants and irritable skins. It is also used along with Paraffin as an excipient for pills which contain such salts as Permanganate of Potassium, etc.

**Unguentum Kaolin.**—1 in 3. Allays irritation if applied to abraded skin.

**Cimolite, Terra Cimolia or White Fuller's Earth.**—A natural variety of steatite, composed chiefly of Silicate of Magnesium.

**Thymolite.**—A similar preparation containing Thymol, used as an application for prickly heat in India.

*Other Dusting Powders—*

**Calamina Præparata.**—See page 304.

**Emol,** a siliceous product containing alumina, lime and straitite.

**French Chalk.**—A natural Silicate of Magnesium which forms a soft unctuous powder.

**Talc and Venetian Talc.**—Another Silicate of Magnesium, softer than French Chalk. The second variety is preferred.

**Fuller's Earth.**—A Silicate of Aluminium, similar to Kaolin, but less pure. It is usually of a greyish colour.

**Kieselguhr**, or White Peat, is a diatomaceous earth, consisting of almost pure Silica, the ash of which forms a very light and absorbent powder.

**Lycopodium**, the spores of a club-moss, is also used. See page 196.

**Oleate of Zinc**.—See page 216.

**Oxide of Zinc**.—See page 306.

**Pelliculine Powder**.—A proprietary preparation, having as a basis finely powdered Boric Acid, and agreeably perfumed. Very pleasant to use, and has the advantage of being soluble.

**Salicylated Talc**.—See page 18.

**Seleinte**, a variety of gypsum.

**Stearate of Lead**.—See page 216.

**Violet Powder**, if procured from a reliable source consists of pure Starch, perfumed. There are many inferior preparations in the market.

## KAVA-KAVA.

The root of *Piper methysticum*, Polynesian Islands. Used by the natives as a sialagogue and for making an intoxicating drink. It contains two resins which are believed to be the active principles, an essential oil, and a neutral crystalline principle (about 1 per cent.) named *Kavalin* or *Methysticin*, allied to Piperine. An alkaloid, *Kavaine*, has also been separated.—*Y.B.*, '89, 131.

A bitter tonic, stimulant, and diuretic, and has been highly recommended for gout and gonorrhœa, as being more palatable than Copaiba or Santal Oil. It is a local anæsthetic to the eye and tongue.

*Dose*—5 to 10 grains.

**Extractum Kava-Kava Liquidum**—Not miscible with water. *Dose*—15 to 60 minims.

## KARIYAT (KREAT).

**Andrographis, P. I.**—The dried stalks and root of *Andrographis paniculata* (Acanthaceæ), a plant common in India. A bitter tonic and stomachic, similar to Quassia and Chiretta. The

juice of the fresh leaves is used by natives as a remedy in bowel complaints of children. The preparations mentioned below are useful in debility and convalescence, also in the advanced stages of dysentery. The whole plant is intensely bitter and yields its properties readily to water and spirit. It is sometimes called "Indian Chiratta."

**Infusum Andrographis Compositum, P. I.**—1 to 20.  
*Dose*—1½ to 2 ounces. (45 to 60 gm.)

**Tinctura Andrographis Composita, P. I.**—3 in 20.  
*Dose*—1 to 4 drachms. (3.5 to 15 gm.)

**Succus Andrographis Concentratus.**—The expressed juice of the fresh herb, concentrated *in vacuo*, so that 1 part represents 4 parts herb. *Dose*—10 to 60 minims. (0.6 to 3.5 cc.)

**Halviva**, a proprietary tonic, is a preparation of this drug, and not of Chiretta as some have stated.

**KHAUTI.**—See page 159.

## KERATIN.

A substance prepared from animal horns by treatment with pepsin and ammonia. It is used for coating pills that are desired to pass into the intestine unchanged, so that the action may be localised. It is insoluble in the acid gastric juice, but soluble in the alkaline liquid of the intestine. See also **Pills** (page 241).

## KOLA.

The seeds of *Sterculia acuminata* (*Cola acuminata*) Sterculiaceæ, of Western Africa. They contain 2.13 per cent. of Caffeine, 0.2 per cent. of Theobromine, and a glucoside *Kolanin*. Act as a stimulant to the nervous system, warding off fatigue and depression. Also used for chronic diarrhoea and dipsomania.—*K.*, July '90. An efficient remedy in sea-sickness.—*B. M. J.*, May 10, '90. In a report of experiments made with Kola at the Mian Mir Camp of Exercise, January, 1889, it was shown to be an efficient stimulant to the nervous system, and might be used as a substitute for tea or coffee, especially where there is diarrhoea: also that care must be taken to exclude the seeds of *Sterculia cordifolia* or *Garcinia Kola* which contain no Caffeine.—*Pr.*, July '89.

**Kola Cordial.**—For sea-sickness. *Dose*—A teaspoonful frequently.

**Kola Wine, Kola Cocoa** (Kolatina), etc., are also prepared.

**Neo Kola.**—A proprietary preparation, said to be made from fresh and undried Kola nuts and to contain no foreign ingredient. A palatable preparation in the form of a pale chocolate coloured powder flavoured with vanilla.—*B.M.J.*, Feb. 2, '96.

### KYROFIN.

**Methylglycolic-acid-phenetid.**—A new antipyretic, soluble 1 in 600 cold water. Taste bitter; said to effect very decided reduction in temperature in febrile conditions.

*Dose*—3 to 8 grains (0.2 to 0.52 gm.)

### LACTOPHENIN.

(Lactylphenetid.) said to be Phenacetin in which the acetic acid group has been replaced by lactic acid. A white insipid powder, soluble 1 in 330 parts of water. In small doses acts as an analgesic. *Dose*—5 to 15 grains (0.32 to 1 gm.).—*A.M.S.B.*, Mar. 15, '94.

### LACTYLTROPEINE.

A cardiac Tonic. Obtained by the action of the Lactic acid upon tropine. White needles, soluble in water, alcohol, ether, or chloroform. No definite information has been received as to its dose.

### LANÆ ADEPS, B.P.

**Wool-fat**, formerly called anhydrous Lanoline.

The purified cholesterin fat of sheep's wool. Liebreich has found it in human skin and hair as well as in the feathers of fowls and various parts of other animals. For a description of the various processes of manufacture, see *J.S.C.I.*, Apr. '90. It is a yellowish, tenacious, unctuous substance, neutral, odourless, does not become rancid, and will take up several times its weight of water, but is not miscible with glycerine. As a basis to ointments it is unequalled. Owing to the readiness with which it is absorbed into the skin, Iodine, for instance, has been found in the urine three minutes after application with Lanolin. In all

cases where it is desirable that the medicament should be rapidly and completely absorbed this basis should be used.

With the addition of 4 per cent. of Cocaine it forms a good application for burns and scalds, relieving the pain and protecting the surface from the air.

**Lanolinum Hydrargyri.**—A strong mercurial ointment prepared with Lanoline.

**Sapolanolin.**—A mixture of Lanolin and Soft Soap, recommended for eczema.

**Lanolin Ointment.**—Lanolin Hydrated 3, Vaseline 1. Smooth, non-sticky, and much more convenient for use than plain Lanolin.

**Lanolin Soap, Cream, and Pomade** are also prepared.

Lanolin forms the basis of several proprietary preparations, as **Vinolia, Pelliculine**, etc., which are useful emollient preparations for the skin.—*M.R.*, Oct. '90.

**Thilanin.**—A sulphuretted lanoline, containing 3 per cent. sulphur; non-irritating.

**Adeps Lanæ Hydrosus, B. P.**—Hydrous Wool-fat, yellowish white. Free from rancid odour.

**Lanolin.**—Wool-fat 7, Distilled water 3.

**Lanesin.**—A wool-fat recently introduced, prepared by a process differing from that by which Lanolin is prepared.—*Ph. J.*, July 28, '88.

**Alapurin.**—Wool-fat, brought by a series of refining processes to a high degree of purity. Consists only of the soft and supple constituents of wool-fat. Melts just over 100° F.—*L.* Jan. 8, '96.

## LANTANINE.

An alkaloid obtained from the Brazilian *Lantana*, a verbinaaceous plant which grows in the South American forests. Given in intermittent and malarial fevers. *Dose*—1 to 2 grammes during the day in pills of 0.10 gramme each.

## LEPTANDRIN.

A resinoid powder obtained from *Leptandra*, U. S. P. or Culver's Root *Leptandra virginica* (*Veronica virginica*), Scrophulariaceæ.

A dark greenish-brown powder. Aperient and cholagogue, useful in bilious headache, especially if combined with Podophyllin. Useful also in dyspepsia, diarrhœa, etc. It does not irritate the bowels.

*Dose*— $\frac{1}{4}$  to 2 grains (0·016 to 0·13 gm.); may be increased to 4 grains (0·26 gm.) in chronic cases.

## LINTEUM.

**Lint.**—Linen cloth, the surface of which has been prepared so as to render it soft and woolly for application to wounds, etc. It is preferred in many cases to cotton as being a superior dressing, and less irritating.

Lint is medicated with Boric Acid (page 5), Carbolic Acid (page 7), Corrosive Sublimate (page 164), Eucalyptus (5 per cent.), Iodoform (page 176), Salicylic Acid (page 18), and Thymol (5 per cent.)

**Paper-Fibre Lint.**—Recommended for surgical and dental purposes, and to be used in place of piline tissue.

## LIPANIN.

A straw-coloured oil containing 6 per cent. of free Oleic Acid. It has an oleaginous taste, and has been used in Germany as a substitute for Cod Liver Oil, being said to be more readily emulsified and assimilated.—*Ph. J.*, Sept. 1, '88.

*Dose*—One drachm to 1 ounce in emulsion 3 times daily.

## LIQUORES CONCENTRATI, B. P.

Introduced into the B. P. to take the place of concentrated Decoctions and Infusions.

Liquor	Galumbæ	Concentratus	1 in	2
"	Chiratræ	"	1	2
"	Cuspariæ	"	1	2
"	Krameriæ	"	1	2
"	Quassiæ	"	1	10
"	Rhei	"	1	2
"	Sarsa compositus	"	1	1
"	Senegæ	"	1	2
"	Sennæ	"	1	2
"	Serpentariæ	"	1	2

## LITHIUM.

Lithium salts possess several advantages over the corresponding salts of Potassium and Sodium. Lithium having a low atomic weight, its salts contain more of the acid radicle in a given weight, and are consequently preferable in some cases.

**Lithii Benzoas, U. S. P.**  $\text{LiC}_7\text{H}_5\text{O}_2$ .—Soluble in water. Used as an antilithic. *Dose*—10 to 30 grains. (0·65 to 2 gm.)

**Lithii Bromidum, U. S. P.** *L. Br.*—Very soluble in water. Contains much more Bromine than Potassium Bromide, and has consequently a greater effect as a hypnotic; also used for epilepsy. *Dose*.—5 to 15 grains. (0·32 to 1 gm.)

**Lithii Carbonas, B. P.;**  $\text{Li}_2\text{CO}_3$ .—*Dose*.—2 to 5 grains. (0·13 to 0·32 gm.) Soluble in water charged with carbonic acid gas, forming.

**Liquor Lithii Carbonas.**—Ærated Lithia Water, 5 grains. (0·32 gm.) per bottle.

**Lithia Water and Arsenate of Soda.**—This has been very strongly recommended as a cure for diabetes, and has for some time past been extensively used here for that purpose. One bottle (containing 5 grains Lithii Carb. and  $\frac{1}{10}$  grains Sod. Arsen.) is to be taken 2 or 3 times a day with meals.

**Lithii Citras, B. P.**  $\text{Li}_2\text{C}_6\text{H}_5\text{O}_7, 4\text{H}_2\text{O}$ .—Soluble in water. *Dose*—5 to 10 grains. (0·32 to 0·65 gm.)

**Lithii Citras Efferverescens, B. P.**—Contains 1 in 20. *Dose*—1 or 2 drachms (4 to 8 gm.)

**Lithii Guaiacas.**—A scale preparation containing one part Lithia and three of Guaiacum Resin. Given for chronic gout and rheumatism. *Dose*—5 grains (0·32 gm) twice a day.

**Lithii Glycerophosphas.**—A white amorphous powder, soluble in water. *Dose*—3 to 8 grains (0·2 to 0·52 gm.)

**Lithii Hippuras.**—In small white crystals, freely soluble in water. Useful in gout and rheumatism, being a solvent of lithates. *Dose*—5 to 20 grains. (0·32 to 1·3 gm.)

**Lithii Salicylas, U. S. P.**—Soluble 1 in 1 of water. Given for gout and rheumatism. *Dose*—5 to 20 grains. (0·32 to 1·3 gm.)



**Granular Effervescent Salicylate of Lithium.**—Contains 1 in 30. *Dose*—1 or 2 drachms.

**Lithii Sulpho-ichthyolas.**—See page 175.

**Lithii Tartras Acida.**—A crystalline white powder  
*Dose*—5 to 20 grains. (0·32 to 1·3 gm.)

**Uropherin.**—Lithium Diuretin, a white powder, soluble in water, 1 in 5. A compound of theobromine-lithium and lithium salicylate.

A Diuretic. *Dose*—up to 60 grains daily.

## LORETIN.

Meta-Iodo-ortho-oxyquinoline-ana-sulphonic acid. A bright yellow crystalline powder, slightly soluble in water, practically insoluble in ether and oils, forms excellent emulsions in oily liquids and collodion. A non-poisonous and non-irritating substitute for Iodoform.

## LOSOPHAN.

**Meta-Tri-Iodi-Cresol.**—A greyish crystalline powder, soluble in alcohol, chloroform oils and fats; contains 80 per cent. Ioline. Used in parasitic skin affections.

## LUPULUS, B. P.

**Hops, Humulus.**—The dried strobiles of *Humulus Lupulus*, *Infusum Lupuli*, B.P., 1 in 20. *Tinctura Lupuli*, B.P., 1 in 5.

## LUPULINUM, B. P.

**Lupulin; Glandulæ Lupuli.**—The glandular powder from the strobiles of the Hop, *Humulus Lupulus* Urticaceæ). Tonic, stomachic, and aromatic, and useful in nervous affections. It is an aphrodisiac and beneficial in alcoholism and insomnia.  
*Dose*—2 to 5 grains, (0·13 to 0·32 gm.)

**Oleo-Resina Lupulini, U. S. P.**—Extracted by means of ether. *Dose*—2 to 5 grains. (0·13 to 0·32 gm.)

**Tinctura Lupulini**—1 in 8. *Dose*—10 to 60 minims (0·6 to 3·5 cc.)

## LYCOPODIUM, U. S. P.

**Clubmoss Spores**—The spores of the common clubmoss, *Lycopodium clavatum* (Lycopodiaceæ). A light, yellowish powder, very mobile and repellent of water. It is used as a dusting powder for the skin, also as a pill excipient, and as a powder for sprinkling hygroscopic pills.

**Tinctura Lycopodii**.—1 in 10, the *Lycopodium* being first treated with ether. Has been found very valuable in nocturnal enuresis. **Dose**—15 minims to 1 drachm. (0.9 to 3.5 cc.)

## LYSIDINE.

**Ethylene ethenyl-diamine**.—A reddish white crystalline substance, very hygroscopic. Commercially sold in the form of a 50 per cent. solution. Used in the treatment of gout and a solvent of uric acid deposits.—**Dose**—Of the Liquid 30 to 60 minims (1.8 to 3.5 cc.), well diluted.

**Lysidine Acid Tartrate**.—White crystalline powder, soluble in water. **Dose**—5 to 15 grains. (0.32 to 1 gm.)

## LYSOL.

The copyrighted name of a preparation of tar, made by a firm in Bohemia. A dark brown liquid of agreeable odour, miscible in all proportions with water. A disinfectant. For wounds 1 to 2 per cent. solutions. For instruments a 0.2 solution.—*A. M. S. B.*, July 15, '95.

## MAGNESII GLYCEROPHOSPHAS.

A white amorphous powder, soluble in water. **Dose**—3 to 13 grains (0.12 to 0.65 gm.)

## MAIDIS STIGMATA.

**Stigmata of Maize ; Corn Silk**—The green stigmata of *Zea Mays* (Graminaceæ). They are demulcent and diuretic, and are recommended for affections of the kidneys and bladder. Valuable in cases of uric or phosphatic gravel, also in chronic but not acute cystitis.—*L.*, Sept. 24, '87.

**Extractum Maidis Stigmatum Liquidum**.—Miscible with water. **Dose**—1 to 2 drachms (3.5 to 7 cc.)

## MAIDIS USTILAGO.

**Maize Ergot.** Corn Ergot. Used in place of Ergot.  
*Dose*—15 to 60 grains. Fluid Extract  $\frac{1}{2}$  to 2 drachms. (1·8 to 7 cc.)

## MALAKIN.

(Salicyl-para-phenetidin). Small clear needles, insoluble in water, soluble with difficulty in cold alcohol, more easily in hot alcohol. Used in rheumatic arthritis, has no secondary effects. Also as in analgesic in neuralgia. *Dose*—60 to 90 grains daily. (4 to 6 gm.)

## MALTUM, U.S.P.

**Malt; Byne.**—The dried seed or grain of barley, *Hordeum distichum* (Graminaceæ), in which the process of germination has been started by artificial means. Malted Barley contains a ferment, *Diastase*, which enables it to convert starch into dextrin and maltose. This property renders it very useful in the digestion of starchy foods. It may be added to such foods as porridge, arrowroot, bread, etc. in the form of Powdered Malt.

*Dose*—1 to 2 drachms (4 to 8 gm.)

**Infusum Malti.**—3 in 7. *Dose*—2 to 4 drachms (1·5 to 15 cc.)

**Infants' Foods** consist essentially of baked wheaten flour mixed with various proportions of Malt.

**Extractum Malti, U.S.P.,** Extractum Bynes, Malt Extract. An aqueous extract of Malt. Contains dextrin, maltose, and diastase. The diastase property is destroyed if exposed to a temperature above 150° F. Given in wasting diseases, weak digestion, and debility of all kinds. *Dose*—1 to 4 drachms (4 to 16 gm.)

Extract of Malt, if of good quality, should convert its own weight of arrowroot starch into dextrine and sugar in from 10 to 15 minutes, at a temperature of 100° F. (See page 313.)

**Extractum Malti Liquidum.**—Liquid Extract of Malt, Bynin. *Dose*—1 to 4 drachms (3·5 to 15 cc.)

**Extractum Malti cum Oleo Morrhue.**—Contains 30 per cent. of Cod Liver Oil. *Dose*—1 to 4 drachms.

Malt Extract is combined with Iron, Hypophosphites, Pepsine, Chemical Food, Citrates of Iron and Quinine, Phosphorus, Sherry Wine, etc.

Malt Extract makes a good emulsion with castor oil in the presence of water, forming a palatable mixture.

**Marrol.**—A proprietary dietetic preparation, said to consist of ox marrow, malt extract and hop extract.

**Taka Diastase.**—An enzyme extracted from *Aspergillus oryza*, recommended in cases of insufficient or disturbed formation of saliva in the mouth or of hyperacidity of the stomach.

*Dose*—1 to 5 grains (0.056 to 0.32 gm.)

## MANACA.

**Mercurio-Vegetal.**—The root-bark of *Franseria uniflora* (Scrophulariaceæ). Highly recommended for syphilis and rheumatism. It excites the lymphatic system, eliminating morbid matter from the blood by the skin and kidneys. Very useful in both chronic and acute rheumatism. It occasionally produces headache, but this soon ends in profuse perspiration and sleep.

**Extractum Manacæ Liquidum.** *Dose*—5 minims (0.30 cc.) gradually increased to 1 drachm (3.5 cc.)

## MANGANESIUM.

**Manganese, Mn.**—The following Manganese salts are in use medicinally:—

**Manganesii Glycerophosphos.**—A white powder soluble in water. *Dose*—1 to 5 grains (0.065 to 0.32 gm.)

**Manganesii Hypophosphis,  $MnP_2H_4O \cdot 11_2O$ .**—A pale pink granular powder, soluble in water. *Dose*—1 to 10 grains (0.065 to 0.65 gm.)

**Manganesii Oxidum Præparatum.**—Black Oxide of Manganese ( $MnO$ ), treated with Hydrochloric Acid and washed. Used in gastrodynia, and amenorrhœa, in which it is said to be preferable to Permanganate of Potassium. *Dose*—3 to 10 grains (0.2 to 0.65 gm.)

**Manganesii Phosphas, Manganous Phosphate,  $MnP_2O_4 \cdot 7H_2O$ .**—A white powder, insoluble in water. *Dose*— $\frac{1}{2}$  to 5 grains (0.065 to 0.32 gm.). Also given dissolved in Syrup of Phosphate of Iron (see page 111).

**Manganesii Sulphas, Manganous Sulphate, Mangani Sulphas, U.S.P.**  $MnSO \cdot H_2O$ .—A white or pinkish powder, also

in large crystals. Freely soluble in water. Acts as a tonic and purgative, but is not largely used. *Dose*—1 to 5 grains (0·065 to 0·32 gm.) as a tonic ; 30 to 60 grains (2 to 4 gm.) as a purgative.

### MANNITOL HEXANITRATE.

Needles, almost insoluble in water. Suggested as a vasco-dilator. The crystals explode violently on being struck, or on the application of sudden heat.

*Dose*—1 grain (0·065 gm.) increased.

### MEDULLIN.

**Myelin, Medulladen.**—An extract from the spinal cord of the sheep, produced and given in the same disease and doses as Cerebrin (see page 91), also for Gout.

### MENISPERMIN.

The powdered extractive prepared from Canadian moonseed or yellow parilla, *Menispermum canadense* (Menispermaceæ.) Tonic laxative, alterative, and diuretic, employed in dyspepsia and general debility. It stimulates the intestinal glands, but not the liver.—*Rutherford*.

*Dose*—1 to 5 grains (0·065 to 0·32 gm.) in pill, thrice daily.

### MENTHOL, B.P.

**Menthylic Alcohol ; Menthyl-propyl-phenol Hexahydride ; Peppermint Camphor.**  $C_{10}H_{18}HO$ —A crystalline stearoptene obtained by cooling the oil distilled from *Mentha arvensis*, vars. *piperascens* et *glabrata*, and from *Mentha piperita* (Labiate.) imported from Japan. It melts about 105° F., and is entirely volatilised by the heat of boiling water. An American variety known as **Pipmenthol** has a lower melting point. Soluble in glycerine, spirit, ether, oils, etc. ; sparingly soluble in water, but imparting to it the colour and taste of peppermint. The Japanese Menthol is frequently adulterated with sulphate of magnesium, the crystals of which it resembles, the latter, however, is non-volatile and soluble in water.

Externally it acts as an antiseptic, and also relieves the pain of neuralgia, headache, and rheumatism. For this purpose it is

largely used in the form of **Menthol Cones** or **Pencils**, which are gently rubbed on the painful part. These may sometimes be advantageously combined with Aconitine (see below.) Menthol forms liquid combinations with Thymol, Phenol, Camphor, Chloral and Croton Chloral, and these fluids applied on cotton-wool are, useful for relieving toothache in decayed teeth.—*M.* A snuff, consisting of Menthol, Boric Acid, and Ammonium Chloride, is recommended for nasal catarrh. A solution (20 per cent.) in Olive Oil, is also recommended as an injection for the larynx in laryngeal diseases.

Internally it has been given in doses of 5 to 20 grains for neuralgia and migraine.—*Ph. J.*, July 27, '89. It stimulates the cardiac action without increasing its rapidity, and raises the arterial blood-pressure. *B. P. Dose*— $\frac{1}{2}$  to 2 grains (0.32 to 0.13 gm.)

**Emplastrum Menthol, B.P.**—Contains Menthol, 1 in 5, with Yellow Wax, and Resin. Used as an application where the sustained action of Menthol is required.

**Gossypium Menthol, Menthol Wool.**—10 per cent. Used to plug the nostrils in catarrh.

**Menthiodol.**—A combination of Menthol and Iodol in the form of cones or pencils, for neuralgia.

**Linimentum Menthol.**—Consists of Menthol 3, Chloroform 4, and Olive Oil *q.s.* to 16, and is useful in neuralgia, lumbago, and sciatica.

**Menthol cum Aconitina**, 1 in 500, made up in 60 grain cones. The aconite being first dissolved in 20 of spirit.

**Menthol Valerianas (Validolum).**—Introduced by Zimmer. A clear colourless liquid of the consistence of Glycerine, with an agreeable smell. Contains 30 per cent. free Menthol. By its means large doses of Menthol can be given without irritating the mucous membrane of the alimentary duct.

*Dose*—10 to 15 drops in sugar or in sherry.

**Mentholeate.**—A strong solution of Menthol in Oleic Acid. One of the best forms for outward application.

**Tinctura Menthol Ætherea.**—1 in 8. The evaporation of the ether produces an agreeable coldness, which supple-

ments the action of the Menthol, and its quick evaporation allows the application of a succession of coats, leaving the Menthol in a finely divided condition upon the skin.—*M.R.*, Sept. '90. See note, page 85.

**Pigmentum Menthol, G.H.** 1 to Olive oil 4.

**Safrol.**  $C_{10}H_{10}O_2$ .—The liquid stearopene of oil of Sassafras, *Sassafras officinale* (Lauracæ). It has been used internally for headache, sciatica, etc., in the same manner as Menthol. *Dose*—20 to 30 minims.

**Menthen** is a pleasantly smelling hydrocarbon  $C_{10}H_{18}$ . obtained from Menthol. It forms a clear fluid which dissolves in Alcohol. Ether. and Benzin.

**Chinese Oil of Peppermint, Po-ho-yo**, the first mentioned of the sources of Menthol, is largely used in this country in place of the English oil.

Oil of Peppermint has been found to act as an excellent antiseptic, especially in phthisis and diphtheria.—*L.*, Mar. 17 & 24, '88.

## MENYANTHES.

**Boghean, Buckbran, Marsh Trefoil.** The leaves of *Menyanthes trifoliata* are used as bitter tonic, and febrifuge. Large doses are purgative and emetic. They contain a glucoside *Menyanthin*. **Infusum Menyanthis** 1 in 20. For amenorrhœa. *Dose*—2 to 6 oz., taken hot.

**METALDEHYDE.** See page 223.

## METHACETIN.

**Para-acet-anisidin; Oxymethyl-acetanilid.**— $CH_3OCH_2.NH.C_6H_4.O$ .—Antipyretic. Like Phenacetin, it is derived from amido-phenol, but contains a methyl group in place of the ethyl group.

A slightly reddish, odourless, crystalline powder, with a bitter saline taste. Slightly soluble in cold water, more so in hot water, freely soluble in alcohol and glycerine.

Action similar in many respects to Phenacetin. The abatement of temperature is gradual and lasts some hours; perspiration is copious. In non-feverish persons, however, neither sweating nor



fall of temperature has been observed. In one case collapse set in, otherwise no disagreeable after-effects have been noticed.—*C. & D.*, Apr. 20, '89.

*Dose*—2 to 6 grains (0·13 to 0·4 gm.) Its solubility and rapid absorption suggest the necessity for great caution in the experiment and use of so powerful a substance.—*Ph. J.*, Apr. 27, '89. The dose should never exceed one-fifth that of Antipyrin—*H.* July, '90.

## METHYL CHLORIDUM.

**Chloride of Methyl.**  $\text{CH}_3\text{Cl}$ .—A colourless gas with a characteristic odour, prepared by distilling Trimethylamine Hydrochloride (from the Trimethylamine obtained as a residual product in the manufacture of alcohol from beetroot molasses) which yields ammonia and Methyl Chloride. The ammonia is separated by passing through acid and the Methyl Chloride, which passes over, is washed and liquefied by cold and pressure. It is prepared in Paris and supplied in cylinders for use as a refrigerant and local anæsthetic.

When applied as a spray to any part of the body, the rapid evaporation of the liquefied gas produces intense cold. In this way it is used in neuralgia, sciatica, for minor operations, and also for freezing histological specimens previous to section cutting.

The spray should be applied obliquely to the surface, and care exercised in its use, otherwise it may cause blisters or eschars. Painting the surface with glycerine is said to prevent these ill-effects.—*T. G.*, Feb. '89.

Has been used successfully in a number of operations, including phymosis, strangulated hernia, etc.—*T. G.*, Oct. '90; *Ed.*, *M. J.*, Dec. '90.

## METHYLAL.

$\text{CH}_2(\text{OCH}_3)_2$ .—The di-methyl ether of Methylene, prepared by the oxidation of Methyl alcohol. A colourless volatile liquid, boiling at  $107^\circ \text{F}$ ., with an odour resembling a mixture of chloroform and acetic ether, freely soluble in water and alcohol. Used as a hypnotic and anæsthetic. Internally, it is given to promote sleep, and the vapour mixed with that of ether has been suggested for use in place of chloroform. It is not fitted for subcutaneous use. Externally, it may be applied as a 10 to 15

per cent. solution in oil, or as an ointment of similar strength. It is an antidote to strychnine.

*Dose*—15 to 30 minims (0·9 to 1·8 cc.) It is not a very satisfactory hypnotic.—*K.*, Jan. '90.

Methylal has recently been recommended as a solvent for the odorous principles of flowers in the manufacture of perfumery.

**METHYLII SALICYLAS.** See page 143.

**METHYL VIOLET.** See Pyoktanin, page 44.

### METHYLENE.

**Bichloride of Methylene.**—A colourless ethereal liquid, with a chloroform-like odour, is sold as an anæsthetic under this name. It has been recommended as an anæsthetic in place of chloroform or ether, being said by some to be more rapid in its action and perfectly safe.—*L.*, '7', i. 671; *B.M.J.*, '88, i. 1211.

It is considered to be merely a mixture of chloroform and alcohol, and is not less dangerous than chloroform. The real Bichloride of Methylene ( $\text{CH}_2\text{Cl}_2$ ) does not produce anæsthesia, but causes convulsions.—*Ring. (Dr. Buxton.)*

Contains a variable quantity of chloroform and therefore not safe. The A. C. E. Mixture is recommended in preference.—*Quain's Dict. Med.*, p. 44.

**METHYLENE BLUE.**—See page 44.

**MOLLIN.**—See page 269.

### MORPHINA, U.S.P.

**Morphine; Morphia.**  $\text{C}_{17}\text{H}_{19}\text{NO}$ ,  $\text{H}_2\text{O}$ .—The principal alkaloid obtained from Opium, in which it exists to the extent of about 10 per cent. In transparent crystals or white crystalline powder, bitter in taste, insoluble in water and ether, soluble in Oleic acid and most alkalies, and forms crystalline salts with acids.

Action similar to Opium and Morphine salts, *viz.*, it diminishes pain, induces sleep, and arrests secretions, except that of the skin, which it promotes. Requires great care in administering to children.

*Dose*— $\frac{1}{10}$  to  $\frac{1}{2}$  grain (0·0065 to ·02 gm.) Large doses are tolerated by persons addicted to its use.

*Antidotes.*—Emetics ; stimulants ; compelled exertion, and artificial respiration ; Nitrite of Amyl ; Strychnine ; Picrotoxin.

Owing to its insolubility, Morphine is usually given in the form of a salt as the Hydrochloride or Acetate, 3 parts of Morphine being equal to 4 of either of these salts.

*Incompatibles.*—Perechloride of Iron ; Tannin.

**Oleatum Morphinæ.**—1 grain in 1 drachm. A useful local application for the relief of pain. See page 216.

**Morphinæ Acetas, B.P.**—A white amorphous powder, soluble 1 in  $2\frac{1}{2}$  of water, if recently made. Spoils by keeping. Has been recommended for diabetes in place of Co-caine. *Dose*— $\frac{1}{8}$  to  $\frac{1}{2}$  grain (0.008 to 0.032 gm.)

**Morphine Diacetat (Heroin.)**—The di-acetic ester of morphine. A white crystalline powder, almost insoluble in water, soluble in alcohol. Does not cause constipation. Heroin is not more toxic than codeine. Doses of 0.005 gm., three, or, at most, four times daily, have given excellent results in cases of bronchitis, pharyngitis, laryngitis, catarrh of the lungs in phthisical persons, and in asthma bronchial.—*Bayer*.

**Injectio Morphinæ et Atropinæ Hypodermica.**—See page 60.

**Liquor Morphinæ Acetatis, B.P.**—1 per cent. *Dose*—10 to 60 minims (0.6 to 3.5 cc.)

**Pastils of Morphine in combination with Bismuth** (page 69) **Cocaine** (page 109), etc. See **Pastils**, page 149.

**Morphinæ Hydrobromidum.**—A white amorphous powder, soluble in water. Said to have the advantage over other salts of Morphine of not affecting the head. *Dose*— $\frac{1}{8}$  to  $\frac{1}{2}$  grain (0.008 to 0.032 gm.)

**Morphinæ Hydrochloridum, B.P.**—The most generally used salt of Morphine. In amorphous white powder, or silky crystals, soluble 1 in  $2\frac{1}{4}$  of water. It is perfectly stable. *Dose*— $\frac{1}{8}$  to  $\frac{1}{2}$  grain (0.008 to 0.032 gm.)

One grain of Hydrochloride of Morphine is equal to  $9\frac{1}{2}$  grains Opium, 8 grains powdered Opium,  $4\frac{1}{2}$  grains Extract of Opium, 117 minims Tincture Opium.—*Sq.*

*Preparations—*

Liquor Morphinæ Hydrochloridi, B. P.	...	... 1 in 100.
<i>Dose</i> —10 to 60 minims (0·6 to 3·5 cc.)		
Suppositoria Morphinæ, B. P.	... ..	... $\frac{1}{4}$ grain each.
B. P., 1898—contained	... ..	... $\frac{1}{2}$ grain. each.
Suppositoria Morphinæ cum Sapone, B. P.	... ..	... $\frac{1}{2}$ grain each.
Tinctura Chloroformi et Morphinæ Co., B. P.	...	(See page 98.)
Trochisci Morphinæ, B. P.	... ..	... $\frac{1}{8}$ grain each.
Trochisci Morphinæ cum Emetin	... ..	(See page 185).
Trochisci Morphinæ et Ipecacuanhæ, B. P.	...	$\frac{1}{16}$ gr. with $\frac{1}{16}$ gr. Ipecac. in each.

**Morphinæ Lactas.**—A white crystalline salt, soluble 1 in 8 of water. *Dose*— $\frac{1}{8}$  to  $\frac{1}{2}$  grain (0·008 to 0·032 gm.)

**Morphinæ Meconas.**—The form in which the alkaloid exists in Opium. Occurs in white needles, soluble 1 in 34 of water. It is said to be less disagreeable in its effects than the other Morphine salts. *Dose*— $\frac{1}{8}$  to  $\frac{1}{2}$  grain (0·008 to 0·032 gm.)

**Liquor Morphinæ Bimeconatis.**—1 $\frac{1}{4}$  per cent., being about the same strength as Tincture of Opium. *Dose*—5 to 40 minims (0·3 to 2·4 cc.)

**Hypodermic Tablets** contain  $\frac{1}{8}$ ,  $\frac{1}{4}$ ,  $\frac{1}{2}$ , and  $\frac{3}{4}$  grain each.

**Morphinæ Phthalas.**—In glassy scales, soluble 1 in 5 of water; keeps well in solution. It has been recommended as the most suitable of the Morphine salts for hypodermic injection, no acid being required for its solution. 100 grains of the Hydrochloride and of the Acetate are equal respectively to 98 and 92 grains of the Phthalate. *Dose*— $\frac{1}{8}$  to  $\frac{1}{2}$  grain.

**Morphinæ Sulphas.**—In white acicular crystals, soluble 1 in 20 of water. It is the salt most generally used in the United States. *Dose*— $\frac{1}{8}$  to  $\frac{1}{2}$  grain (0·008 to 0·032 gm.)

**Liquor Morphinæ Sulphatis.**—1 per cent. *Dose*—10 to 60 minims (0·6 to 3·5 cc.)

**Hypodermic Tablets** contain,  $\frac{1}{16}$ ,  $\frac{1}{8}$ ,  $\frac{1}{4}$ ,  $\frac{1}{2}$ , and  $\frac{3}{4}$  grain; also with Atropine,  $\frac{1}{160}$ ,  $\frac{1}{80}$ ,  $\frac{1}{40}$ ,  $\frac{1}{20}$ , and  $\frac{1}{10}$  grain respectively.

**Morphinæ Tartras, B. P.**—A white powder, soluble 1 in 10 of water. *Dose*— $\frac{1}{8}$  to  $\frac{1}{2}$  grain (0·008 to 0·032 gm.)

**Injectio Morphinæ Hypodermica**, B. P.—5 of Tartrate in 100. *Dose*—2 to 5 minims (0.008 to 0.031 gm.) *Takes the place of the Injection made from acetate, strength reduced from 10 to 5 per cent.*

**Liquor Morphinæ Tartratis**, B. P.—1 in 100. *Dose*—10 to 40 minims (0.6 to 3.5 cc.)

**Apomorphine**.—See page 50.

**Dionin**.—See page 123.

**Codeina**.—See page 109.

**Narceina**, **Narceine**.—White silky acicular crystals, neutral taste slightly bitter. Soluble 1 in about 400 of water; soluble in alcohol, insoluble in ether. Has been recommended as a hypnotic, causing no constipation and less headache and perspiration than Morphine. *Dose*— $\frac{1}{8}$  to  $\frac{1}{2}$  or 1 grain (0.008 to 0.065 gm.)

Chemistry of Narceine, see *Ph. J.*, xix. 1034; xx. 335, 401, 481.

**Antispasmin**.—See page 47.

**Narcotina**, **Narcotine**, **Anarcotina**.—White crystals, insoluble in water, soluble in chloroform and benzene. It possesses anti-pericolic properties, and has been used in India for ague, being considered second only to quinine. *Dose*—1 to 5 grains (0.065 to 0.2 gm.)

**Stipticine**.—An oxidation product of narcotine. It combines a sedative with its styptic action. It is an exciter of uterine action, and hence is contra-indicated in threatened abortion. It is a powerful vaso-constrictor. *Dose*—0.05 gm., four or five times a day.—*Macnaughton Jones*.

**Cotarnine Hydrochloride**.—A salt of cotarnine, a base obtained from the fractionation of narcotine. It occurs as yellow crystals, soluble in water. *A.M.S.B.*, Mar. 15, '95. *Dose*— $\frac{1}{4}$  to  $\frac{1}{2}$  grain (0.016 to 0.032 gm.)

**Papaverina**, **Papaverine**.—Colourless crystals, insoluble in water, slightly in alcohol and ether. Used as a narcotic, being said to be free from such effects as headache or giddiness. It contracts the pupil. *Dose*— $\frac{1}{12}$  to  $\frac{1}{2}$  grain (0.005 to 0.02 gm.)

**Peronine**, **Benzoyl-Morphine-Hydrochloride**.—A voluminous white powder, soluble in water, insoluble in alcohol, chloroform

or ether. Intended as a substitute for Morphia. *Dose*— $\frac{1}{8}$  to  $\frac{1}{2}$  grain (0.008 to 0.032 gm.)

The Opium poppy, *Papaver somniferum*, is cultivated in India, chiefly in Bengal and Malwa. The B. P. requires that opium when dry, must not contain less than  $7\frac{1}{2}$  per cent. of anhydrous morphine.

There is very little East Indian opium that comes up to this standard. It is remarkable for its low percentage of morphine, narcotine being frequently present to a large amount.—*Ph. Ind.*

### MORRHUÆ OLEUM, B. P.

**Cod Liver Oil.**—The oil expressed from the fresh liver of the cod, *Gadus morrhua*.

*Dose*—1 to 4 drachms (3.5 to 0.15 cc.)

Contains free fatty acids, phosphates, bromine, and iodine, also two bases, *Aselline* ( $C_{25}H_{42}N_4$ ) and *Morrhaine* ( $C^{10}_9H_{27}N_9$ ) and *Morrhuc Acid*. Morrhaine acts as an appetiser, diuretic, and diaphoretic, while Morrhuc Acid exists in the oil as a complex unstable compound, behaving like ordinary lecithin in yielding phosphoric acid on treatment with acids or alkalis. The oil also contains several volatile bases, *Butylamine*, *Amylamine*, etc.—*Ph. J.*, Nov. 3, & Dec. 1, '88.

**Oleum Morrhue cum Æthere.**—See page 26.

**Oleum Morrhue cum Creasoto.**—Contains 0.125 per cent. of Creasote with Saccharin. The oil is thus rendered more agreeable. *Dose*—1 to 4 drachms (3.5 to 15 cc.;) children in proportion.

**Cremor Eucalypti Compositus.**—See page 130.

**Emulsio Olei Morrhue, B.P.C.**—Contains 50 per cent. of Cod Liver Oil. May also be combined with **Hypophosphite** or **Lactophosphate of Calcium**. *Dose*—1 to 8 drachms (7 to 30 cc.)

**Extractum Malti cum Oleo Morrhue.**—See page 199.

**Oleum Morrhue Phosphoratum**— $\frac{1}{100}$  grain Phosphorus in each drachm. See page 232.

**Liparin.**—See page 193.



**Morrhual.**—A bitter, aromatic liquid obtained from Cod Liver Oil by treatment with alcohol.

Supplied in capsules each containing 0·2 gramme (3 grains.)  
*Dose*—1 or 2 capsules.

### MUDAR.

**Calotropis Cortex, P. I.; Akra.**—The dried root-bark of *Calotropis procera* and *C. gigantea* (Asclepiadææ,) common in India. *C. procera* yields an acrid milky juice, which, when dried, has properties very similar to Gutta-percha. Alterative, tonic, diaphoretic, and, in large doses, emetic. Recommended for leprosy, syphilis, diarrhoea, dysentery, and chronic rheumatism; also as a substitute for Ipecacuanha. Dey states, that a Fluid Extract of the leaves given in doses of 1 to 5 drops in intermittent fever, during intermission, cuts off the paroxysm more effectually than Quinine.

**Pulvis Calotropis, P. I.**—The bark of the fresh root, dried by exposure to the air and powdered. *Dose*—As an alterative tonic, 3 grains (0·2 gm.) increased to 10 grains (0·65 gm.) or more, thrice daily; as an emetic, 30 to 60 grains (2 to 4 gm.)

### MULLS.

**Plaster Mulls.**—A form of dressing consisting of a very thin sheet of gutta-percha, coated on one side with an adhesive substance containing the medicament, and backed on the other side with mull or undressed muslin.

**Salve Mulls.**—A similar kind of dressing in which the medicament consists of a firm ointment spread upon mull.

Both kinds of mulls are prepared in strips, one metre (39 inches) long and 20 centimetres (8 inches) wide, and are spread with all the medicaments commonly applied externally.

The various Plaster and Salve Mulls are referred to under the heads of their respective ingredients. For complete list, see Index.

### MUSCARINA.

**Muscarine.**—An alkaloid obtained from fly agaric, *Agaricus muscarius* or *Amanita Muscaria* (Fungi.) It has also been obtained from brain substance. Its action is similar to Pilocarpine, increasing the flow of saliva and sweat; like Gelsemium



locally, it dilates, and internally it contracts the pupil. It is antagonistic to Atropine in other respects. Useful in night-sweats, in diabetes insipidus, in incipient pulmonary congestion, and in constipation, due to deficient secretion. It is given only in the form of salts.

**Muscarinæ Nitræs.**—Very hygroscopic. *Dose*— $\frac{1}{10}$  to  $\frac{1}{15}$  grain, hypodermically or in pill (0.0065 to 0.004 gm.)

**Muscarinæ Sulphas.**—Similar in properties and dose.

*Antidote.*—Atropine,  $\frac{1}{120}$  grain hypodermically, and repeated till relieved.—*B.M.J.*, '74, ii, 617.

The symptoms of Muscarine-poisoning, have been observed to be similar to those of cholera, and the use of Atropine has been suggested as a remedy for the latter.—*B.M.J.*, '89, i, 1335.

## MYDRINE.

A white powder easily soluble in water. A mixture of ephedrine and homatropine in the proportion of 100 to 1. (**Ephedrine** is the active principle of a Japanese gentian.) (*C. & D.*, 12.—Sept. '96.

The drug is used in 10 per cent. solutions. Compared with other mydriatics gives quicker but less lasting results.—*B.M.J.*, Aug. 22, '96.

Mydrine is capable of causing a moderate dilation of the pupil without involving the function of accommodation.—*L.*, July 2, '88.

## MYGRANIN.

**Migranin.**—Citrate of Caffeine antipyrine. A compound containing about 9 per cent. of caffeine, being a combination of antipyrin, caffeine, and citric acid in definite proportions. A crystalline powder, readily soluble in water. Used in migraine, and the headache of influenza. *Dose*—3 to 15 grains (0.52 to 1 gm.)

## MYRCIN.

The extractive obtained from the bark and stem of bayberry *Myrcia cerifera*, astringent and stimulant—emetic in large doses. *Dose*—2 to 5 grains.

## NAPHTHALINUM.

**Naphthalene.**— $C_{10}H_8$ .—A hydrocarbon obtained in large quantities as a by product in the manufacture of coal gas. In brilliant white scaly crystals, having a strong and unpleasant odour, insoluble in water, freely soluble in alcohol, ether, and oils. A fine, and less irritating powder, prepared by dissolving in alcohol and reprecipitating with water, is also met with under the name of **Naphthalinum Precipitatum**.

It acts as an antiseptic, and is largely used for disinfecting purposes. A 10 to 20 per cent. solution in oil, acts as a parasiticide in scabies.

*Dose*—2 to 15 grains or more (0·13 to 1 gm.)

**Naphthalene Tetrachloride.**—*Dose*—3 to 12 grains (0·2 to 0·8 gm.,) and a **Dichloronaphthalene** ( $C_{10}H_6Cl_2$ ,) are also used.

**NAPHTHALOL.**—See page 211.

## NAPHTHOL.

**Beta-Naphthol, B. P.;  $\beta$ . Naphthol; Naphthyl Alcohol.**— $C_{10}H_7HO$ .—An alcohol of Naphthalene. A derivative of coal-tar, in colourless or greyish silky leaflets, with faint penoal-like odour, sparingly soluble in water, readily soluble in alcohol, ether, benzol, chloroform, and alkalis.

A powerful antiseptic and disinfectant.

*Dose*—3 to 10 grains (0·2 to 0·65 gm.)

Naphthol may be dispensed in solution in camphorated spirit; the camphor forming a liquid combination with the Naphthol, assists to keep the latter in solution. Alkalis should not be used, as, although good solvents, they form combinations with Naphthol which are weak antiseptics.—*Ph. J.*, June 29, '89.

**Unguentum Naphtholi, Kaposi's Ointment.**—1 to 8.

**Naphthol cum Camphora.**—B-Naphthol 1, Camphor 2. A viscid liquid. Useful as a surgical dressing, and to protect surgical instruments. The Camphor acts as an anæsthetic when applied. This preparation is insoluble in water, but freely miscible with fixed oils, and will dissolve one-ninth of its weight of iodine, also Cocaine.—*Ph. J.*, July 27, '89; *K.*, Jan. '90.

**Naphthol-Mercury Compounds.**—See page 164.

***a*-Naphthol**,  $C_{10}H_7HO$ .—A powerful antiseptic, similar to *B*-Naphthol, and said to be much less poisonous. It also forms a liquid compound with Camphor.

**Alphol.**—Salicylic Ether of *a*-Naphthol, a whitish powder insoluble in water, soluble in alcohol. Resembles Petol and Salol in effects on acicular rheumatism. *Dose*—3 to 30 grains (0.52 to 2 gm.)

**Benzonaphthol, Benzoyl-Naphthol.**—Beta-naphthol benzoate. A white crystalline powder insoluble in water, taken up by alcohol. An intestinal antiseptic. *Dose*—1 to 10 grains. (0.26 to 0.65 gm.)

**Asaprol (abrastol)**—See page 57.

***a*-Oxynaphthoic Acid, *a*-Naphthol-Carbonic Acid, Carbonaphthoic Acid.**  $C_{10}H_7(OH)COOH$ . Formed from *a*-Naphthol, in a manner similar to the formation of Salicylic Acid from phenol. A white crystalline powder, nearly odourless. Insoluble in water, soluble in alcohol and alkalis. Said to be five times stronger as an antiseptic than Salicylic Acid.—*Ph. J.*, Dec. 1, '88.

**Betol.** Naphthalol; Naphthol-Salol.  $C_7H_5O_3C_2H_5$ .—The salicylate of *B*-Naphthol Ether. It is constituted like Salol, but contains *B*-Naphthol in place of Phenol. In white scales, odourless, tasteless, and insoluble in water, but soluble in hot Alcohol. Bougies (1 to 4) have been used in gonorrhœa. *Dose*—3 to 8 grains (0.2 to 0.52 gm.)

**Hydronaphthol.**—A proprietary preparation, put forward as an odourless, non-poisonous and non-corrosive antiseptic. Its composition is not definitely known, and it is said by some to consist of impure *B*-Naphthol. A greyish-white crystalline powder, soluble 1 in 20 of oil. 1 in 1,100 of cold water. The latter solution is recommended as an antiseptic lotion. *Dose*—2 grains or more (0.13 gm.)

**Microcidine.**—A combination of Naphthol and Caustic Soda. Soluble 1 in 3 of water. A powerful non-poisonous antiseptic.

**NASROL.**—See Sodium Caffeine Sulphonate, page 273.

## NEURODIN.

Acetyl-para-oxyphenyl-urethane. Colourless crystals, slightly soluble in water, soluble 1 in 140 boiling water, melting point 87° C. (188·6 F.) Antipyretic, Analgesic, and Antiuersive. *Dose*—5 to 15 grains (0·32 to 1 gm.)

**Thermodin.**—Acetyl-para-ethoxyl-phenyl-urethane. Has the same properties and dose. Colourless, tasteless crystals, slightly soluble in water.

## NICOTINA.

**Nicotine.**—A colourless volatile liquid alkaloid from tobacco (*Nicotiana Tabacum*.) Darkens with age, soluble in water, rectified spirit and ether. *Dose*— $\frac{1}{2}$  to 1 grain (0·01 to 0·065 gm.)

**Nicotinæ Tartras.**—Minute white crystals, soluble in water.

## NIGELLA.

**Mugrela.**—The seeds of *Nigella sativa* (Ranunculacææ,) cultivated in India. Nigella seeds are extensively used as a spice, and in medicines as an aromatic to correct purgative medicines. They are said also to be anthelmintic, diuretic and emmenagogue.

*Dose*—1 to 8 grains (0·26 to 0·52 gm.)

**Tincture of Mugrela.**— $\frac{1}{2}$  ounces to 2 pints. *Dose*—30 to 60 minims (1·8 to 3·5 cc.)

## NIRVANIN.

A new local anæsthetic, said to be only  $\frac{1}{10}$ th as poisonous as Cocaine *B. M. J.*, Feb. 18, '99.

## NITROGLYCERINUM.

**Tri Nitroglycerin; Trinitrin; Glonoin; Glyceryl Trinitrate.**  $C_3H_5(ONO_2)_3$ .—A dense, oily, and highly explosive liquid, prepared by dropping glycerine into a mixture of fuming nitric acid, and sulphuric acid, cooled below 40° F. After some hours the product is thrown into water, and the precipitated Nitroglycerine dried at 170° F. It is colourless, but has a sweet taste, and is very slightly soluble in water, but freely soluble in Alcohol, Ether, and Chloroform. A mixture of Nitroglycerine with an infusorial earth, forms the well-known explosive *Dynamite*.

Nitroglycerine is very useful in warding off attacks of angina pectoris, in which it is superior to Amyl Nitrite, as its effects last longer. It is also given in sea-sickness, Bright's disease, neuralgia, paroxysmal headache, etc. It is said also to relieve the morphine craving, and to lessen the frequency of epileptic attacks. It is poisonous.

*Antidotes*.—Ergot; Strychnine; Belladonna; application of cold to the head.

*Dose*.— $\frac{1}{200}$  to  $\frac{1}{50}$  grain, increased to  $\frac{1}{10}$  grain.

The name *Trinitrin* has been adopted as official. It is better suited for prescribing.

**Liquor Trinitrini, B. P.**—Liquor Nitroglycerini, Liquor Glonoini. (110 minims contain 1 grain.) *Dose*.— $\frac{1}{2}$  to 2 minims. (0.03 to 0.12 cc.)

**Tabellæ Trinitrini, B. P.**— $\frac{1}{100}$  grain (0.00065 gm.) each with chocolate. A convenient and portable form. *Dose*.—One or two.

**Tabellæ Trinitrini Compositæ.**—Trinitrin  $\frac{1}{100}$  gr., Amyl Nitrite  $\frac{1}{4}$  gr., Capsicum  $\frac{1}{5}$  gr., Menthol  $\frac{1}{50}$  gr. The Capsicum exerts a warming action, and the Menthol facilitates the absorption of the Nitroglycerine.

**Injectio Nitroglycerini Hypodermica.**— $\frac{1}{100}$  grain in 1 minim. *Dose*.—1 to 4 minims (0.06 to 0.24 cc.) For collapse, etc.—*M.*

**Oleum Nitroglycerini.**—1 per cent. in Almond oil. *Dose*.—1 to 2 drops on sugar.

## NOSOPHEN.

(Tetraiodophenolphthaleine.) A yellowish powder, colourless and tasteless, insoluble in water, soluble in ether and chloroform. Contains 60 per cent. Iodine, and behaves as an acid, combining with bases to form salts. Used as an insufflating powder for coryza, eczema, etc.—*B. & C. D.*, May 14, '95. *Dose*.—3 to 8 grains (0.2 to 0.52 gm.)

**Antinosin.**—The soluble sodium salt of Nosophen. A greenish blue powder, having a faint odour of Iodine.—*A. M. & S. B.*, July 15, '95. A good serviceable disinfectant in minor gynecological operations. *Dose*.—3 to 8 grains (0.2 to 0.52 gm.)

**Eudoxin.**—The insoluble Bismuth salt of Nosophen, containing 52·9 per cent. Iodine, and 14·5 per cent. Bismuth; insoluble in ordinary solvents—odourless and tasteless, said to be quite innocuous.—*A. M. S. B.*, Dec., 1, '95.

**OLEA.**—See Index.

### OLEATA.

**Oleates.**—This class of preparations has of late come into extensive use in medical practice. They are of two kinds: an Oleate prepared by simple solution in Oleic Acid, is termed **Oleatum**, as **Oleatum Hydrargyri**: when prepared by the double decomposition of metallic salt and Curd Soap, (Oleate of Sodium,) it is termed **Oleas**, as **Cupri Oleas**. The former class contain free Oleic Acid and are prepared of definite strength per cent., the latter are chemical compounds, and contain no free Oleic Acid; they are liable to contamination with palmitic acid; this, however, may be removed by dissolving in Benzene.

The Oleates have a great penetrative power, and are in many cases superior to ointments.

**Acidum Oleicum, B. P.**—Oleic Acid.  $\text{HC}_{18}\text{H}_{33}\text{O}_2$ .—A yellow oily liquid, insoluble in water, but soluble in alcohol, ether, oils, etc. It is very readily absorbed by the skin, and promotes the absorption of drugs with which it is combined. It dissolves the alkaloids, but not their salts, forming

*Oleates of the Alkaloids*—

**Oleatum Aconitinæ.**—2 per cent. See page 23.

**Oleatum Atropinæ.**—1 in 40. As an anodyne for painful parts.

**Oleatum Cocainæ.**—1 in 3. As a local anæsthetic. This is usually diluted with Oleic Acid to about 5 per cent. for use.

**Oleatum Morphinæ.**—1 in 60 to 1 in 10. As a local sedative.

**Oleatum Quininæ.**—1 to 3. May be applied externally; also for internal administration, 8 grains to 1 ounce of Cod Liver Oil, forming **Oleum Morrhuæ cum Quinina**.

**Oleatum Strychninæ.**—2 per cent.

**Oleatum Veratrinæ, U. S.**—2 per cent. For neuralgia.

**Oleanodyne.**—A combination of **Aeonitine**, **Atropine**, **Morphine**, and **Veratrine**; with **Oleic Acid**. Alone it forms a strong anodyne application; it may also be diluted with chloroform, spirit, or oils; but not with compound camphor or soap liniment.—*M.*

**Liparin.**—See page 193.

*Metallic Oleates*—

**Aluminii Oleas.**—In powder. Mixed with an equal quantity of lard, it forms a useful styptic and antiseptic ointment, checking the mucopurulent discharge in eczema. Also used as a dressing for burns.

**Arsenii Oleas.**—20 grains of this Oleate to 1 ounce of lard is used as a caustic in the treatment of lupus, epithelioma, etc.

**Bismuthi Oleas.**—An unctuous substance; generally used undiluted, for acne, syecosis, piles, and skin irritation generally.

**Cupri Oleas.**—A dark green unctuous mass. A good application for corns and warts, also used as a 25 per cent. ointment for ringworm.

**Ferri Oleas.** **Ferrous Oleate.**—A waxy, solid, pale green inside, but dark red outside, owing to oxidation. Used externally as a local astringent, internally as a tonic in conjunction with Cod Liver Oil.

**Hydrargyri Oleas, B. P.**—Oleate of Mercury. It is extremely valuable in persistent inflammation, especially of the glands; and in syphilitic affections, it is an excellent application quickly restoring the skin to its normal condition.

**Unguentum Hydrargyri Oleati, B. P.**—One part, of Oleate of Mercury to 3 parts Benzoated Lard.

**Oleatum Hydrargyri 10 % cum Morphina.**—Containing one grain pure Morphine in one drachm of Oleatum Hydrargyri, B. P., 1885. This preparation does not keep well.

**Hydrargyri Oleo-palmitas.**—Formed by the double decomposition of Perchloride of Mercury and curd soap. A yellow unctuous body, about twice as strong as the 20 per cent. Oleatum. It is used diluted 1 to 3 with Vaseline or as a plaster; 1 to 3 of Lead Plaster, as a substitute for Emplastrum Hydrargyri.



**Plumbi Oleas.**—A white unctuous preparation which has a sedative and astringent effect on the skin. It is best applied as an ointment, mixed with an equal quantity of vaseline or lard. Arrests morbid discharges and allays irritation; *Emplastrum Plumbi*; *B. P.*; is a crude Oleate of Lead.

**Unguentum Diachyli** (Hebra).—Contains 50 per cent. of Lead Plaster, perfumed; Known also as *Unguentum Vaselinei Plumbicum*;

**Hydrargyri Stearas.**—Properties like the oleate.

**Plumbi Stearas.**—A white powder, formed by mixing solutions of subacetate of lead and curd soap, used alone, or diluted with kaolin or starch, as a dusting powder for eczema itching, etc;

**Zinci Oleas, B. P., 1885.**—Prepared by double decomposition. A white powder like French chalk, useful as a dusting powder in eczema.

**Unguentum Zinci Oleati, B. P., 1885.**—Equal parts of the above and soft Paraffin. Having, unlike Zinc Ointment, the Oxide of Zinc in *solution*, it does not form a crust over the part, and is preferable in some cases; Useful in eczema.

**Unguentum Zinci Oleatis, B. P.**—Precipitated Oleate of Zinc 1, soft white Paraffin 1. Mix together and stir until cold.

For various suggestions in connection with the pharmacy of Oleates, see *Ph. J.*, xx. 433; 676.

**Oleite; Polysolve; Solvine.**—Special preparations, all of which consist of sulphoricinolate of sodium, prepared by treating castor oil with sulphuric acid at a low temperature; washing with water, and ether, and saponifying with soda. Oleite is a yellowish oily liquid, miscible with water; alcohol, chloroform, etc., readily absorbable by the skin, and having a remarkable solvent power as regards medicaments. For these reasons it has been recommended as a useful basis for skin applications. It readily dissolves such substances as Sulphur, Chrysarobin, Iodoform, etc., also alkaloids, the activity of which it greatly increases. It may be mixed with gelatine and spread as a plaster.—*Ph. J.*, July 5, '90. Applied alone it is soothing and emollient.—*Ph. J.*, Feb. 1, '90. The same substance is used as a solvent for the dye of Turkey red, under the name of *Turkey Red Oil*.

## OREXIN.

**Orexine Hydrochloride; Phenylidihydrochinazolin Hydrochloride.**  $C_{14}H_{12}N_2$ . HCl.  $2H_2O$ .—The hydrochloride of a synthetically prepared base. A yellowish-white crystalline powder, soluble 1 in 13 of water and in alcohol, but insoluble in ether. Chemistry and mode of preparation, see *Ph. J.*, July 19, '90. It has a nauseous pungent taste, which, however, is not due to caustic action.

It is said to have the property of stimulating the gastric secretion and thus increasing the appetite, hence its name. Has been given in 36 clinical cases, in most of which the appetite was improved and the digestion accelerated.—*K.*, July '90., Another series of experiments, however, has left much room for doubt as to its efficacy.—*M. R.*, Aug., '90.

*Dose*—3 grains (0.2 gm.) in gelatine-coated pills.

**Orexine Tannate.**—An insoluble greyish white powder with properties like the above. *Dose*—4 to 8 grains (0.26 to 0.52 gm.)

## ORTHOFORM.

Methyle-ester of amidoxybenzoic acid. A white crystalline powder without taste or smell, dissolving slowly in water. Unlike cocaine it is non-poisonous. It may be applied to mucous membranes in powder, or as an ointment. The **Hydrochloride**, which is very soluble, is too acid for use as a hypodermic injection, or for applying to the eye, but it may be employed for internal administration or for urethral injection. A saturated solution in water is suitable for local application, and  $7\frac{1}{2}$  grains of the Hydrochloride may be given internally several times a day.—*L.*, Sept. 13, '97.

## PAMBOTANO.

The Mexican leguminous plant *Calliandra Houstoni*, called "pambotano" in its native country. A fluid extract is prepared from the bark, and is recommended as an excellent remedy for malaria, and even useful as a substitute for Quinine. The fluid extract is given in half-ounce doses before food.

## PANCREATIC ENZYMES.

The Pancreatic secretion is a combination of four distinct ferments:—(1) *Pancreatic Diastase*, which converts starch into dextrin and sugar; (2) A *curdling ferment*, which curdles the casein of milk in a manner similar to rennet; (3) *Trypsin*, which has powerful peptonising properties converting albumens into peptones in an alkaline or neutral solution; (4) an *emulsifying ferment*, which emulsifies and partly saponifies fats. These four properties, therefore, are possessed by Pancreatic juice, and should be possessed by all good preparations of the Pancreas. The Pancreatic enzymes act only in neutral or alkaline solution, and are destroyed by weak acid, or a temperature of 160° F.

Pancreatic digestion being an intestinal operation, and Pancreatic enzymes being destroyed by the acid of the stomach, the following preparations are much more efficacious if used to peptonise food previous to administration than if given internally. Such food is useful in cases of weak stomach, maintaining nutrition, and allowing the stomach to regain its former powers.

**Liquor Pancreatis, B. P.**—Prepared by treating the Pancreas of the pig with dilute spirit for about a week, then filtering. This preparation possesses the properties of Pancreatic juice, when not in an acid medium. *Dose*—1 to 2 drachms (3·5 to 7 cc.) May also be added to nutritive enemata, or mixed with beef-tea or gruel.

**Extractum Pancreatis or Zymine.**—A special preparation used for peptonising foods. When used for this purpose, it must be mixed with Bicarbonate of Sodium, or used in the form of **Peptonising Powders**, which are put up in glass tubes, each containing 5 grains Extractum Pancreatis and 15 grains Bicarbonate of Sodium. Also in **Tablets**, 3 grains (0·2 gm.) each. *Dose*—One or two after meals.

**Pancreatine.**—A desiccated extract of Pancreas, similar to the above. 5 grains with 20 grains Bicarbonate of Sodium should peptonise a pint of milk in 30 minutes: this test forms a standard of strength. *Dose*—2 to 4 grains (0·13 to 0·26 gm.)

**Peptonised Foods.**—Useful when the digestive organs are weak from any cause. They do not keep in a warm climate, and should, when frequently required, be prepared twice a day. The

following are recommended by Sir William Roberts (*Quain's Dict. Medc.*, p. 1115).

**Peptonised Milk.**—A pint of milk is diluted with a quarter of a pint of water, and heated to 140° F. Two teaspoonfuls of Liquor Pancreaticus with 10 grains Bicarbonate of Sodium, or one Peptonising Powder, must then be added to the warm milk. This is put in a covered jug and kept warm for an hour or an hour and a half, or until the milk has become not more than very faintly bitter, it is then boiled for a few minutes and is ready for use.

Milk is completely peptonised when a small portion of it transferred to a test-tube, does not coagulate on the addition of a slight excess of nitric acid. If more than a very faint bitterness is present, the process has gone too far.

**Peptonised Gruel.**—Gruel is to be prepared from any of the farinaceous articles in common use; it should be well boiled and made thick and strong. It is then put into a jug and allowed to become lukewarm, when a dessertspoonful of the Liquor Pancreaticus is to be added for every pint of gruel, and the whole kept warm as before. After two hours it is to be boiled and strained. The gruel becomes thin and watery and has no bitter taste. The starch of the meal is converted into sugar, and the albuminoid matters are peptonised.

**Peptonised Milk-Gruel.**—A gruel, prepared as above, is to be mixed while boiling hot, with an equal quantity of cold milk. To each pint of this mixture, two or three teaspoonfuls of Liquor Pancreaticus are to be added, with 10 grains Bicarbonate of Sodium, and the whole kept warm, boiled and strained, like the last.

**Peptonised Soups, Beef-Tea, etc.**, may be prepared on similar lines to the preceding.

**Peptonised Enemata** are prepared from gruel, beef-tea, etc., the Liquor Pancreaticus being added just before administration. The ferments act in the bowel.

**Peptonised Beef Jelly.**—A preparation sold in tins, and consisting of an extract of beef, the fibrin of which has mostly been converted into peptone by the Pancreatic ferment. *Dose*.—A teaspoonful alone, or added to soup, etc.

**Pancreatic Emulsion.**—Prepared by pancreatising Lard by suitable process, and then emulsifying. It is flavoured with

Oil of Cloves, which also assist in preserving it. Useful in wasting diseases, especially where Cod liver oil, etc., cannot be borne by the stomach. *Dose*—1 to 4 drachms (3·5 to 15 cc.) in milk or water, once to thrice in 24 hours, 1 or 2 hours after meals.

**Pancreatized Food.**—Wheat flour impregnated with an extract of Pancreas. Mixing with milk or water, causes artificial digestion of the food, a process which can be stopped at any point by boiling.

**Trypsin.**—A digestive enzyme from the Pancreas, recommended for spraying the throat in membranous or diphtheritic croup. Used as follows:—Trypsin 30 grains, Bicarbonate of Sodium 10 grains, Water 1 ounce, dissolve and apply with a brush, or as a spray, as frequently as possible.

## PAPAIN.

**Papain, Papayotin.**—A ferment prepared from the juice of the papaw, *Carica papaya* (Passifloræ), a native of America cultivate throughout India. A whitish amorphous powder, having great digestive powers, said to be capable of digesting 200 times its weight of fresh pressed blood fibrin. It acts more quickly than Pepsin, at a higher temperature, and does not require the addition of free acid.

It is used in solution to dissolve the fibrinous membrane in croup or diphtheria, a solution in glycerine being painted on the pharynx every few minutes.

A 5 per cent. solution, with 2½ per cent. Bicarbonate of Sodium, has been recommended for cleansing the middle ear in chronic suppuration, 15 minims being dropped into the meatus.—*Ed., M. J.*, Jan. '90.

A **Pigment** containing Papain 12 grains, Borax 5 grains, water 2 drachms, painted on the hands twice a day, has been found to remove warts in chronic eczema and hypertrophied condition of the palms of the hands. A solution in Glycerine is useful in ulcers and fissures of the tongue, and **Lozenges** containing Papain ½ grain with cocainæ ⅛ grain are recommended for syphilitic ulcers of the tongue and throat.

7 grains of Papain digest a pint of milk in 1½ hour.—*B. M. J.*, '85, li. 125.

*Dose*—1 to 10 grains (0·065 to 0·65 gm.)

**Elixir Papain.**—For dyspepsia and sea-sickness. *Dose*—1 drachm (3·5 cc.).

**Papaw Juice.**—The milky juice of the unripe fruit of the Papaw, is used as an anthelmintic and for dyspepsia. Externally it is said to be beneficial in ringworm and psoriasis. It has also a reputation among some classes of natives as an emmenagogue, but this has not been confirmed.—*P. I.* *Dose*—1 to 4 drachms (3·5 to 15 cc.)

**Carpaine.**—An alkaloid from the leaves of *Carica Papaya*, a heart poison.—*Dose*— $\frac{1}{30}$  to  $\frac{1}{4}$  grain, (0·002 to 0·01 gm.)

**Carpaine Hydrochloridum.**—Soluble in water, *Dose*— $\frac{1}{30}$  to  $\frac{1}{15}$  grain (0·002 to 0·004 gm.) by injection.

**PARACOTOIN.**—See page 115.

### PARAFFINUM DURUM, B. P.

**Hard Paraffin; Paraffin Wax; Solid Paraffin.**—A mixture of several of the harder members of the paraffin series of hydrocarbons; usually obtained by distillation from shale, separation from the liquid oils by refrigeration, and purification of the solid product. A colourless, odourless, waxy solid, sp. gr. 0·82 to 0·94, insoluble in water, slightly soluble in alcohol and ether; melts at 130° to 135°F.

Its chief use is to form ointment bases; it gives consistency to Vaseline, which, as a rule, is too soft for general use.

A Paraffin prepared from ozokerit, or earth wax, has a higher melting point, 155°F., and is known as **Ceresin**.

### PARAFFINUM LIQUIDUM, B. P.

A clear oily liquid, without taste, odour, colour, or fluorescence. Known in commerce under such names as Adepsine oil, Oleum Deelinæ, Paroline, etc. May be used as a vehicle for hypodermic injections, the medicaments being either dissolved or suspended in it.

### PARAFFINUM MOLLE, B. P.

**Soft Paraffin; Unguentum Paraffinum, Petrolatum Molle.**—A semi-solid mixture containing some of the softer or more fluid members of the paraffin series of hydrocarbons; usually obtained by purifying the less volatile portions of petroleum. Known in commerce by various fanciful names, such



as Vaseline, Saxoline, Chrisma, Fossiline, Cosmoline, Ozokerine, Geoline, Salvo Petrolia, etc.—Of these Vaseline answers most correctly the characters and test of the B. P. Several of the others, having a higher melting point, are more suitable for use in India, but for most purposes, Vaseline will be found best.

**Vaselinum;** Vaseline; Gelatum Petroleum; Petroleum Jelly.—semi-solid, amber-coloured, unctuous substance, melting at 95° to 105° F. When decolorised, by passing through animal charcoal it is opal-white in colour, and is known as **Vaselinum Album** or White Vaseline, a form better suited for toilet purposes.

Vaseline is inodorous and unirritating; it is also unchangeable, never becoming rancid. Although alkalis do not saponify it, yet it may readily be removed from the skin by means of soap and water. On account of its low melting point, the following is in many cases preferable as a basis for ointments:—

**Ceratum Petrolei.**—Vaseline 2, Paraffin 1.—*M.*

**Unguentum Paraffini, B. P.,** Paraffin ointment—Hard Paraffin 1, Soft Paraffin 7. The proportions may be modified to suit climate and temperature.

**Petrolatum, U. S. P.,** Petroleum Ointment.—The form used in America. Two varieties are official, the softer melting at 104° F. and the harder at 125° F.

**Terrol.**—Terroline Terraline. A fluid odourless petroleum recommended for internal use. *Dose*—1 to 2 drachms (3·5 to 7 cc.)

**Vasogene.**—An oxygenated Petroleum, recommended as a vehicle for creosote, iodoform, etc.

**Petroleum Soap.**—Contains 25 per cent. of Petroleum. It is an excellent medium for applying the insecticidal properties of petroleum to the skin.—*Ph. J.*, July 27, '89.

**Vaselone.**—A substance introduced as a substitute for Vaseline, said to be a solution of stearone and margarone in neutral mineral oil. *Stearone* is prepared by distilling stearin with lime. *Margarone* is prepared in a similar way from beef suet. Vaselone consists of 15 parts of margarone, 5 of stearone, and 100 of thoroughly purified and odourless mineral oil. The fatty product thus obtained resembles vaseline on cooling, but is not so transparent. It is white, odourless, neutral, and not affected by acids and chemical re-agents.



# PARALDEHYDUM, B. P.

**Paraldehyde.**  $(CH_3CHO)_3$ .—A polymer of Aldehyde.—It may be prepared from the latter by treatment with an acid. It is one of the chief ingredients in Spiritus Ætheris Nitrosi, B. P. (see page 26).

A colourless liquid, with a pungent unpleasant taste, soluble about 1 in 10 of water, any excess forming an emulsion by shaking. Sp. gr. 0.990.

It is a hypnotic, resembling Chloral, but differs from it in its action on the circulatory system, strengthening the heart's action but diminishing its frequency. It is antagonistic to Strychnine, and is sedative rather than anodyne. It should not be given when there is gastric irritation, or in febrile conditions or lung affections.

It is most useful in mental diseases, usually causing sleep in from 5 to 15 minutes, lasting 5 to 7 hours, and appears to be devoid of danger in large doses.

**Elixir Paraldehyde.**—Paraldehyde 240, Glycerine 240, Alcohol 90 per cent. 480, Oil Cinnamon 4, Oil bitter orange 8, Saccharin, l. M. Dose—1 to 3 drachms (3.5 to 10.5 cc.)

Dose—30 to 120 minims (1.8 to 7 cc.), or more. It has been given up to 4 drachms, and large doses are said to be preferable. May also be given as an enema. Its unpleasant odour is imparted to the breath, and is an objection to its use.—K., Jan., '90.

**Metaldehyde.**  $C_6H_{12}O_3$ .—A polymer of Aldehyde, apparently identical in composition with Paraldehyde, but occurring in crystals, insoluble in water, slightly soluble in alcohol and ether. Has been used as a sedative and hypnotic. Dose—2 to 8 grains (0.13 to 0.52 cc.)

**Sulphaldehyde, Thialdehyde.**  $CH_3CHS$ .—Obtained by the action of sulphuretted hydrogen upon ethylie aldehyde. Chemically, it is Aldehyde, containing sulphur in place of oxygen, and it occurs as an oily liquid with a disagreeable odour. When treated with an acid, solid polymers are formed, constituted similarly to Paraldehyde. As met with in commerce, it exhibits a varying boiling point, and appears to be a mixture of Aldehyde and Trithialdehyde.

It has been administered to frogs and rabbits, and has been found to act as a hypnotic, inducing deep tranquil sleep, without any symptom of excitement. In consequence of its slight solu-

bility, the hypnotic effects are not manifested for some time after a ministration, but it is nearly three times as powerful as Paraldehyde. It is excreted in the urine.—*Ph. J.*, Nov. 29, '90.

### PASTÆ.

**Linimentum Exsiccans**.—Consists of—

Tragacath Powder	...	...	...	...	5 parts
Glycerine	...	...	...	...	2 "
Distilled Water	...	...	...	...	100 "

Small quantities may be prepared cold; large quantities require heat for their proper preparation.

A useful basis for the application of such medicaments as Tar, Ichthyol, Chrysarobin, Iodoform, etc., being free from the disadvantages of fatty liniments. Applied to the skin, it dries in thin layers, producing a feeling of coolness, followed by one of tension.

**Pasta Abri**.—See page 2.

**Pasta Amyli Iodidi**.—See page 180.

**Pasta Caustica**.—Various formulæ are in use, containing Caustic Potash or Soda, or Chloride of Zinc, as the principal ingredient.

**Pasta Londinensis**, London Paste.—Contains equal parts of Caustic Soda and Unslaked Lime. Used as a caustic, being mixed with water before use.

**Pasta Viennensis**, Vienna Paste.—Composed of Caustic Potash 5, Slaked Lime 6, and Spirit *q. s.* Also used as a caustic, but more painful than the last.

**Pasta Zinci Chloridi**.—Chloride of Zinc and Wheaten Flour, equal parts, Glycerine *q. s.* Also with **Extract of Opium**, 20 grains to 1 ounce.

**Coster's Paste**.—See page 179.

**PASTILLI**.—See page 147.

### PELLETIERINA.

**Pelletierine**.— $C_8 H_{13} NO$ .—An alkaloid obtained from the root-bark of Pomegranate, *Punica Granatum* (Lythracæ), cultivated in India. It occurs in minute white crystals. *Dose*.—3 to 6 grains (0.2 to 0.4 gm.) The Tannate is most used in medicine.

**Pelletierinæ Tannas**.—A grey amorphous powder, insoluble in water. It is a powerful anthelmintic. A dose of 8 grains

followed in 2 hours by a dose of castor oil, has been found to expel the worm entire, causing neither colic nor headache.  
*Dose*—5 to 8 grains; (0·32 to 0·52 gm.)

**Pelletierinæ Sulphas.**—A brown viscid syrupy liquid freely soluble in water, given similarly to the Tannate: *Dose*—5 to 8 grains. (0·32 to 0·52 gm.)

**Pelletierinæ Hydrobromidum.**—A brownish liquid; has been used in cases of paralysis of the muscles of the eye: *Dose*—5 to 8 grains; (0·32 to 0·52 gm.)

**Granati Radicis Cortex, B. P.**—Pomegranate root-bark, is official also in the *P. I.* as well as the rind of the fruit;  
**Granati Cortex.** The Decoction (1 in 10 of root-bark) is used as an anthelmintic; a better form is

**Extractum Granati Liquidum.**—Made from the fresh root-bark, 2 in 3. *Dose*—1 ounce in the early morning, preceded by a dose of castor oil, and repeated at intervals of one hour. Seldom fails to bring away the entire worm.

The rind of the fruit is a good astringent.

## PEPSIN, B. P.

**Pepsin.**—A light yellowish-brown powder, prepared from the mucous lining of the stomach of the pig, sheep, or calf. Nearly free from odour, with a faintly saline taste. Some forms of Pepsin prepared in Europe, contain a small proportion of sugar of milk or starch, to make them keep; such Pepsins have a somewhat lower digestive power, and a different taste, but as a rule they keep better in a warm climate. The *B. P.* Pepsin should dissolve 2,500 times its weight of hard boiled white of eggs.

The gastric juice contains two ferments:—(1) *pepsin*, which changes proteids, as fibrin; albumen, etc., into soluble peptones; (2) a *curdling ferment*, which curdles the casein of milk, and is contained in the preparation known as “Essence of Rennet.” Medicinal Pepsin owes its activity to the former, exhibiting its proteolytic action only in an acid medium.

**Pepsina Porci**, the Pepsin prepared from the stomach of the pig, is usually preferred.

Pepsin is a valuable digestive.

*Dose*—5 to 10 grains, (0·32 to 0·65 gm.) with or immediately before or after meals.

The various proprietary "digestive table salts" which are advertised, consist essentially of chloride of sodium, with a small percentage of Pepsin, and are used similarly to ordinary table salt.

**Pepsinum Saccharatum, U.S.P.**, Saccharated Pepsin. Pepsin mixed with Sugar of Milk. *Dose*—5 to 15 grains. (0·32 to 1 gm.)

**Liquor Pepsini, U.S.P.**—4 per cent. in water, with Glycerine and Hydrochloric Acid. *Dose*—1 to 2 drachms. (3·5 to 7 cc.)

**Liquor Peptidus.**—A solution of the gastric ferments, very useful as a digestive. *Dose*—1 to 2 drachms (3·5 to 7 cc.) with meals.

**Glycerinum Pepsini, B.P.**—An excellent method of administering Pepsin; each drachm contains 5 grains Pepsin. *Dose*— $\frac{1}{2}$  to 2 drachms (3·5 to 7 cc.)

**Lactopeptine.**—A proprietary preparation, recommended for indigestion, and said to consist of Sugar of Milk 3·0, Pepsin 64, Pancreatin 48, Liastase 4, Lactic and Hydrochloric Acids of each 5 parts. *Dose*—10 to 15 grains (0·65 to 1 gm.), after meals. *For children* 5 to 8 grains.

**Bismuth and Pepsin.**—See page 68.

**Podophyllin and Pepsin.**—See page 247.

**Maltopepsyn.**—A proprietary article containing pepsin, pancreatin, calcium lactophosphate, and extract of malt.

*Dose*—10 to 20 grains (0·65 to 1·3 gm.)

**Peptonised Beef.**—An extract of artificially digested beef. Useful as a nutrient enem, or in the form of **Suppositories**, containing about 50 grains each.

**Peptonised Bismuth.**—See page 68.

**Peptonised Iron.**—See page 136.

**Beef Peptonoids**—Minced beef, digested with Pepsin and Hydrochloric Acid for several hours; neutralised with soda, and strained.

**Vinum Pepsinæ.**—A solution of the gastric ferments in sherry. *Dose*—1 to 2 drachms with meals (3·5 to 7 cc.)

**Peptone.**—A whitish powder, consisting of muscular tissue, subject to artificial digestion, and reduced to a form immediately available, for nourishment. Where the digestive powers are

defective it will sustain the system by direct absorption. It is also used to add to jelly for germ-cultivation, and as a test for bile in urine.

## PHENACETINUM, B. P.

**Phenacetin; Para-acet-phenetidín.**— $C_8H_9O_2$ .—A crystalline substance produced by the action of glacial acetic acid on para-phenetidín, a body obtained from phenol. It is analogous to Antifebrin (page 45). In white crystals, odourless and tasteless, sparingly soluble in water, more so in glycerine-freely in alcohol.

A valuable antipyretic and analgesic. It is most valuable in all kinds of fever, being rapid in its action, harmless, and attended with no ill effects. A dose of 3 grains, administered to a fever patient, produces nearly always a marked fall in the temperature of the body, lasting some hours.

Phenacetin has also been found valuable as an analgesic in neuralgia, rheumatism, etc.

*Dose*—5 to 10 grains (0·32 to 0·65 gm.)

**Phenacetin Lozenges.**—4 grains and 8 grains each.

Most useful in the fevers of India, both intermittent and continuous, also in that class of cases of a neuralgic or nervous nature, doubtless also traceable to a malarious origin.—*I. M. G.*, Aug. '89.

*Dose*—1½ to 5 grainse very 3 to 6 hours, according to age and circumstances, proved most valuable in whooping cough.—*M. T.*, April '90.

Its utility in sciatica cannot be overrated.—*B. M. J.*, Apr. 7, '88. Has been used with marked success in neuralgia.—*B. M. J.*, May 26, '88.; *Pr.* May '88.

For the chemistry and preparation of the Phenacetin, see *Ph. J.*, Nov. 24, '88.

The following simple tests will detect impurities:—

(1) 8 grains burned on platinum foil with free access of air should leave no residue of inorganic impurities.

(2) If 2 grains be heated with half a drachm of liquor potassæ, 2 or 3 drops of chloroform added, and the mixture again heated, the offensive smell of phenyl-carbylamin, isonitril, or isocyanobenzene, (resembling benzene and prussic acid,) should not be produced, otherwise antifebrin is present as an impurity.

**Iodphenin.**—See page 55.

## PHENAZONUM, B. P.

**Antipyrin; Analgesine; Phenylldimethylpyrazolon:**  $C_{11}H_{12}N_2O$ .—A “crystalline substance obtained from phenylhydrazine,” occurring in white shining scales, melting at  $233^{\circ}$  F. ( $111.6^{\circ}$  C.), and freely soluble in water.

A powerful antipyretic, analgesic, and hæmostatic.

*Dose*—5 to 20 grains (0.32 to 1.3 gm.) in tablets, or solution.

**Antipyrin Tablets (Compressed)**—5 grains each (0.32 gm.)

*Dose*—1 to 4 or more.

In *febrile cases*, it reduces the temperature rapidly in doses of 15 to 30 grains, given hourly for 3 hours. It usually causes diaphoresis, and occasionally nausea and vomiting, sometimes producing also a rash similar to scarlatina or measles. For children  $1\frac{1}{2}$  grain for each year of age is a suitable dose.

For *sea-sickness*, 15 grains 3 times a day before embarking, and the first three days of the voyage. Best taken in the form of—

**Antipyrin Elixir.**—*Dose*—A tablespoonful (15 grains.) In *bilious headache*, 8 grain doses every hour for 3 or 4 hours, the patient being kept quiet. The following are good forms:—

**Granular Effervescent Antipyrin,**—5 grains to one drachm. *Dose*—One teaspoonful or more.

**Aerated Antipyrin Water** (in Syphons).—5 grains in each wineglassful. *Dose*—One or two wineglassfuls every 3 hours.

In *acute rheumatism*, 60 to 90 grains a day removes pain and swelling in from 2 to 4 days.

*Sunstroke* has been successfully treated by doses of 20 to 30 grains.—*B. M. J.*, April 30, '87.

The *pains of pregnancy* may be removed or prevented, without retarding delivery, by the injection *per anus* of 30 grains in 5 or 6 ounces of water.

*Chorea* has been quickly cured by 15-grain doses 3 times a day.—*T. G.*, April '88.

Antipyrin is also said to suppress the milk secretion.—*T. G.*, Sept. '88.

Cases are also recorded in which Antipyrin has checked *hæmoptysis*.



**Antipyrin** acts in *diabetes* by depressing the nervous system and thereby lessening the chemical and nutritive activity of the body.—*B. M. J.*, June 29, '89. In one case the sugar fell in one week from 35 to 3.0 grammes on 3 grammes Antipyrin per diem.—*L.*, Apr. 20, '89.

In combination with Sodæ Bicarb. 1 gramme Antipyrin per diem will dissolve *calculus*.—*Pr.*, Apr. '89.

*Hypodermically*, Antipyrin is recommended for lumbago, sciatica, angina pectoris, biliary and renal colic, and dysmenorrhœa.

**Injectio Antipyrin Hypodermica.**—1 grain in 2 minims. *Dose*—8 to 30 minims (0.48 to 1.8cc.)

**Injectio Antipyrin et Cocainæ Hypodermica.**—The above containing 1 grain Cocaine Hydrochlorate in 150 minims. *Dose*—The same. Less painful in use than the simple injection.

As a *local anæsthetic*, Antipyrin is said to rival Morphine, without the bad effects of the latter. The hypodermic injection is recommended for this purpose.

Antipyrin is also prescribed for *influenza*. 30 grains at the commencement of a paroxysm have relieved *asthma*.—*Ph. J.*, Mar. 29, '90.

Has also been recommended for *ulcerated piles* in the form of suppositories.

**Antipyrin Amygdalate.**—**TUSSOL.** White granular crystals, soluble in water and in alcohol. Antipyretic and analgesic. *Dose.*—5 to 15 grains (0.32 to 1 gm.)

**Antipyrin Salicylate** or **Salipyrin.**—Contains molecular proportions of Antipyrin and Salicylic Acid in combination. In colourless crystalline scales, nearly insoluble in water and ether, freely soluble in alcohol. Formula  $\text{CH}_5\text{N}_2\text{O}$ .  $\text{C}_7\text{H}_5\text{O}$ . Easily decomposed by acids or alkalies. May be given in all cases where the combined action of the two drugs is desired, avoiding the liquefaction caused by mixing the powders (see below). *Dose.*—15 to 30 grains (1 to 2 gm.); double the dose of Antipyrin being required to reduce the temperature. 90 grains in 24 hours cause no unpleasant symptoms.—*B. M. J.*, Oct. 11, '91.

**Antipyrin-Salol.**—Equal parts of Antipyrin and Salol heated together until brown. Recommended as a hæmostatic in uterine hæmorrhage.—*A. M. S. B.*, Aug. 15, '95.



The use of Antipyrin is contra-indicated :

1. During the menstrual period and in dysmenorrhœa.—*Ed. M. J.*, May '89.
2. In cardiac weakness and extreme exhaustion.—*Th. G.*, '89, p. 457.
3. After exhaustive hæmorrhages.—*Pr.*
4. In the later stages of tuberculosis.—*Pr.*
5. In kidney disease.—*B. M. J.*, '88, i. 1185.

*Antidotes.*—Atropine acts promptly ; an emetic and purgative are also good, but more gradual.—*Ph. J.*, Feb. 2, '89.

*Incompatibles.*—*Sp. Etheris Nitrosi* forms a green inert compound (Iso-nitroso-Antipyrin). *Cinchona* preparations form a precipitate soluble in weak acids. When prescribed with Salicylate of Sodium it should be ordered in solution, as these drugs when mixed form a liquid similar to Chloral and Camphor, although in a dry atmosphere, and with care this may be avoided to some extent.

Liquid compounds are also formed by mixing Antipyrin with *B. Naphthol* and *Butyl-Chloral Hydrate*. A solution of Antipyrin when mixed with a solution of Chloral Hydrate, at once present a milky appearance, depositing an oleaginous fluid which smells of cariander, and differs from both ingredients. Several compounds appear to be formed by the union of these two substances some of which seem to be inert, others to have the combined properties of their constituents (see **Hypnal**).

In prescribing Antipyrin all formulæ should be as simple as possible, as its physiological action is so readily interfered with. For full list of Antipyrin incompatibles, see *Ph. J.*, April 19, '90.

For Antipyrin increases the solubility of Quinine and Caffeine.—*Ph. J.*, Mar. 1, '90.

Antipyrin may be detected in the urine by adding a dilute solution of Iodine drop by drop ; a precipitate forms which at first disappears on shaking and then reappears permanently.

Antipyrin being freely soluble in water may be administered in that liquid, the taste being disguised by means of peppermint. It may also be administered in cachets or compressed tablets. The taste may also be covered by taking the dose in a cup of coffee—*B. M. R.*, Oct. 27, '88.

For comparison of Antipyrin with other antipyretics, see page 228.

**Pyramidon ; Dimethylamido-antipyrin.** Chemically related to Antipyrin although said to be medicinally superior. The dose is smaller, 3 to 7½ grains (0·2 to 0·5 gm.) and no unpleasant effects are experienced from its use. Its action is prompt and certain. A white powder somewhat less soluble than Antipyrin itself.—B. Ph., Feb. '98.

## PHENOCOLL.

**Phenol-Glycocoll ; Amido-acet-para-phenetidin.** A new antipyretic prepared by the combination of Glycocoll (amido-acetic acid) and Phenetidin. In white acicular crystals, having a tendency to mat themselves together. Slightly soluble in Ether, Benzol, Chloroform and cold water ; freely in alcohol and warm water. The **Hydrochloride** is soluble in 16 parts cold water ; and may be given as an antipyretic and anti-neuralgic, in doses of 7 to 15 grains (0·5 to 1 gm.)

**Phenocoll Salicylate.**—*Salocoll.* Combines the actions of Phenocoll and Salicylic Acid, as an anti-pyretic, antineuralgic, etc. *Dose*—10 to 30 grains. (0·65 to 2 gm.)

**Granular Effervescent Piperazine and Phenocoll.**  
—See page 241.

**PHENOSALYL.**—See page 9.

## PHLORIDZIN.

**Phlorizin.**  $C_{21}H_{22}O_{10}$ —A glucoside existing ready formed in the root-bark of the apple, pear, plum, and cherry tree. It crystallizes in long silky needles or tufts, is sparingly soluble in cold water, but freely soluble in boiling water and alcohol. It has the property of producing diabetes in animals to which it is administered, 1 gramme to 1 kilo. body-weight causing an excretion of sugar lasting for 24 to 30 hours and amounting to 6 to 12 grammes. It is used in physiological research.—*C. & D.*, July 30, '89.

## PHOSPHORUS, B. P.

**Phosphorus.**—A non-metallic element obtained from bones. It occurs as a semi-transparent, wax-like solid, omitting white

vapours of phosphorous anhydride when exposed to the air; at 110° F. it melts, and a few degrees higher ignites, forming dense white fumes of phosphoric anhydride. It should always be handled with caution and kept under water. It is insoluble in water but soluble in chloroform, bisulphide of carbon, oils and fats, as also in oils of turpentine and peppermint, forming chemical combinations with the last two, which are non-luminous and comparatively non-poisonous.

A nervine tonic and stimulant of great power. It is given in nervous prostration, skin diseases, neuralgia, etc. It is a violent poison, causing fatty structural changes of the kidneys and liver, and is contra-indicated in active congestion of the brain and in plethoric states of the system generally.

*Dose*— $\frac{1}{100}$  to  $\frac{1}{50}$  grain (0.0065 to 0.0032 gm.)

*Antidotes*.—Emetics; Epsom Salts as a purgative; demulcent drinks, avoiding oils and fats; Sulphate of Copper, 3 grains every 5 minutes till vomiting is produced, then 1 grain every 15 minutes; Morphine; French Oil of Turpentine [the oil distilled from the oleo-resin obtained from *Pinus maritima* (Coniferæ)],  $\frac{1}{2}$  draehm every half hour.

**Æther Phosphoratus.**—Æthereal Tincture of Phosphorus (Codex 1839) contains 1 in 150 (or 205 by measure). *Dose*—1 to 10 minims (0.06 to 0.6 cc.)

**Oleum Phosphoratum, B. P.**—1 in 100. Luminous in the dark. Given internally chiefly with Cod Liver Oil, also diluted 1 to 2 of Almond Oil for use as eye-drops for cataract, 3 to 5 instillations daily. *B. P.* *Dose*—1 to 5 minims (0.06 to 0.3 cc.)

**Oleum Morrhuæ Phosphoratum.**— $\frac{1}{100}$  grain in 1 draehm. *Dose*—1 to 4 draehms. (3.5 to 15 cc.)

**Pilula Phosphori, B. P.**—1 in 90. The mass is to be preserved under water in a bottle from which light is excluded. When dispensed every 3 grains of the mixture is to be incorporated with 1 grain of Gum acacia in powder and the resulting pills varnished.

*This contains 2 per cent. of Phosphorus, and is nearly double the strength of B. P. 1885.* *Dose* reduced to 1 to 2 grains (0.065 to 0.13 gm.)

Various forms of Phosphorus Pill have been recommended from time to time, the great difficulty to be overcome being the preservation of the Phosphorus in an active form, owing to its tendency to oxidise and render the pills inert. The pills should be composed of ingredients which are readily soluble, and should be carefully preserved. If the pills glow when cut in the dark, the Phosphorus is in an active condition.

**Red or Amorphous Phosphorus.**—An allotropic variety of Phosphorus, differing from the ordinary variety in being less fusible, unoxidisable by the air, insoluble in bisulphide of carbon, and not readily inflammable. At high temperatures it is reconverted into ordinary Phosphorus. It is physiologically inert, unless it contains, as some samples do, a varying proportion of ordinary Phosphorus when it is unsafe to administer.

**Tinctura Phosphori Composita, B. P. C.**—Contains  $\frac{1}{10}$  grain Phosphorus in one drachm of a mixture of Chloroform 1, and Alcohol 5. *Dose*—3 to 12 minims (0·18 to 0·7 cc.) on sugar.

**Elixir Phosphori, B. P. C.**—Compound Tincture 1, Glycerine 4. Contains  $\frac{1}{20}$  grain Phosphorus in each drachm. Recommended as a stable and palatable liquid form. *Dose*—15 minims to 1 drachm (0·9 to 3·5 cc.)

**Phosphorus Pills.**—Phosphorus is combined in pill form with a large number of other ingredients, the various formulæ for which are generally to be found in trade lists.

**Zinci Phosphidum** is sometimes given in place of Phosphorus (see page 306).

**Acidum Phosphoricum.**—The following forms of Phosphoric Acid are met with :—

**Acidum Phosphoricum Concentratum, B. P.**— $H_3PO_4$  with 33·7 per cent. of water. A colourless, syrupy liquid, sp. gr. 1·5. Also prepared of sp. gr. 1·75, which may be brought to B. P. strength by adding to every three parts by weight of acid, one part of distilled water. *Dose*—1 to 4 minims (0·06 to 0·24 cc.)

**Acidum Phosphoricum Dilutum, B. P.**—Contains 13·8 per cent. of  $H_3PO_4$ . sp. gr. 1·08. Tonic and refrigerant,

similar to Sulphuric Acid, but more palatable. *Dose*—5 to 20 minims (0·3 to 1·2 cc.)

**Acidum Phosphoricum Glaciale**, Metaphosphoric Acid.  $\text{HPO}_3$ .—In colourless crystalline masses or sticks. These have a tendency to absorb water and become liquid, the solution becoming converted into ordinary or Orthophosphoric Acid.

**Pyrophosphoric Acid**,  $\text{H}_4\text{P}_2\text{O}_7$ , is a product of the dehydration of Phosphoric Acid, and is not used medicinally, although its sodio-citro-ferrie salt, Pyrophosphate of Iron, is official in the *U. S. P.* (see page 141).

**Acidum Hypophosphorosum**, **B.P.C.**, Hypophosphorous Acid.—A colourless liquid, containing 30 per cent. of Hypophosphorus Acid.  $\text{H}_2\text{PO}_2$ . It is used in the preparation of solutions and syrups of the Hypophosphites, and has been recommended as a solvent of Morphine and Strychnine for hypodermic injection. *Dose*—2 to 5 minims (0·12 to 0·3 cc.)

The following **Hypophosphites** are used medicinally as assimilable forms of Phosphorus, as they contain their Phosphorus in weak combination decomposing when heated into phosphoretted hydrogen and pyrophosphate. In contact with a naked flame they burn like Phosphorus, emitting white fumes. They are all crystallisable and soluble in water, but their solutions gradually oxidise on exposure. They are good nervine tonics, given in the incipient stages of phthisis, and are useful in aene.

**Ammonii Hypophosphis** ( $\text{NH}_4$ )  $\text{PH}_2\text{O}_2$ .—In large crystalline plates, nauseous in taste. *Dose*—1 to 6 grains (0·065 to 0·4 gm.)

**Calcii Glycerophosphas**.—A white crystalline powder, soluble in cold water, slightly so in hot water. *Dose*—3 to 10 grains (0·2 to 0·65 gm.)

**Calcii Hypophosphis**, **B.P.**  $\text{Ca P}_2\text{H}_2\text{O}_4$ .—White crystals. *Dose*—3 to 10 grains (0·2 to 0·65 gm.)

**Syrupus Calcii Hypophosphitis**.—1 grain in each drachm. *Dose*—1 to 4 drachms (3·5 to 15 cc.)

**Syrupus Calcii Manganesii, et Potassii Hypophosphitum, B.P.C.**—Contains 2 grains Calcium and 1 grain each Potassium and Manganese Hypophosphites in each drachm.  
*Dose*— $\frac{1}{2}$  to 1 drachm (1·8 to 3·5 ee.)

**Ferri Glycerophosphas.**—White powder or scales, slightly soluble in water. *Dose*—1 to 5 grains (0·065 to 0·32 gm.)  
A Wine is made containing 1 per cent. with Glycerine, 5 per cent. in sherry.

**Ferri Hypophosphis** (Ferrous Hypophosphite)  $\text{FeP}_2\text{H}_4 \cdot 0.6\text{H}_2\text{O}$ .—When pure this is in green crystals, but it very rapidly oxidises, the salt as met. with in commerce being usually amorphous and insoluble in water. *Dose*—1 to 5 grains (0·065 to 0·32 gm.)

**Liquor Ferri Hypophosphitis Fortis, B.P.C.**—About 5 grains in each drachm. *Dose*—10 to 30 minims (0·6 to 1·8 cc.)

**Syrupus Ferri Hypophosphitis, B.P.C.**—1 of the Liquor in 5. *Dose*— $\frac{1}{2}$  to 2 drachms (1·8 to 7 cc.)

**Manganesii Hypophosphis.**—See page 198.

**Potassii Hypophosphis.**  $\text{KPH}_2\text{O}_2$ .—A deliquescent granular white powder. *Dose*—1 to 6 grains (0·065 to 0·4 gm.)

**Sodii Hypophosphis, B.P.**  $\text{NaPH}_2\text{O}_2$ .—Like the last, but less deliquescent. *Dose*—3 to 10 grains (0·2 to 0·65 gm.)

**Syrupus Sodii Hypophosphitis B.P.C.**—1 grain in each drachm. *Dose*—1 to 4 drachms (3·5 to 15 ee.)

**Liquor Hypophosphitum Compositus, B.P.C.**—Each drachm contains:—

Hypophosphite of Sodium	...	...	2 grains.
" Calcium	...	...	2 grains.
" Magnesium	...	...	1 grain.
" Iron	...	...	1½ grain.

*Dose*— $\frac{1}{2}$  to 2 drachms (1·8 to 7 cc.) A useful tonic for children.

**Syrupus Hypophosphitum Compositus, B.P.C.**—Each fluid ounce contains:—

Hypophosphite of Calcium	...	...	4 grains.
" Manganese	...	...	2 grains.



Hypophosphite of Potassium	...	...	...	2 grains.
" Quinine	...	...	...	1 grain.
" Strychnine	...	...	...	$\frac{1}{27}$ grain.
" Iron	...	...	...	6 grains.

*Dose*— $\frac{1}{2}$  to 2 drachms (1·8 to 7 cc.)

The following formulæ have been published as the result of analysis of the "Syr. Hypophos. Comp." advertised, the under-mentioned quantities being the constituents of one fluid ounce:—

	No. 1.	No. 2.
Hypophosphite of Sodium	3 gr.	.....
" Potassium	.....	1½ gr.
" Manganese	1 gr.	1 gr.
" Iron	1 gr.	1½ gr.
" Calcium	.....	1 gr.
" Quinine	$\frac{5}{18}$ gr.	gr.
" Strychnine	$\frac{1}{32}$ gr.	gr.

Either of the above makes a syrup resembling the proprietary remedy in all essential particulars. *Dose*— $\frac{1}{2}$  to 2 drachms.

**Glyceritum Hypophosphitum Compositum.**—Containing the ingredients of the Syrup, and made with Glycerine

## PHYSOSTIGMATIS SEMINA, B.P.

**Calabar Bean.**—The dried seed of *Physostigma venenosum* (Leguminosæ), Western Africa.

It is a powerful poison and owes its properties chiefly to *Physostigmine* (see page 237). It contracts the pupil, and is antagonistic to Strychnine, but should not be depended on as an antidote. Useful in traumatic tetanus. It produces strychnia-like symptoms at first, probably due to the other alkaloid *Eseridine* which it contains.

It may be administered by mouth, anus, or subcutaneously, and, to be of any use, must be given in quantity sufficient to produce paralysis, to such an extent that little more would arrest breathing. It must be given with great care and watchfulness, in small and increasing quantities every hour or oftener, so that it may be at once stopped should serious paralytic symptoms arise.—*Ring.*

Also used in paralysis and nervous affections.

*Dose*—1 to 4 grains, in powder (0·065 to 0·26 gm.)



*Antidotes*—Stimulants ; artificial respiration ; Apomorphine ; Atropine ; Chloral ; Strychnine.

**Extractum Physostigmatis. B. P.**—An alcoholic extract of the seed. *Dose*— $\frac{1}{4}$  to 1 grain (0·016 to 0·065 gm.)

**Injectio Physostigmatis Hypodermica.**—10 grains Extract in  $\frac{1}{2}$  ounce, emulsified with gum and spirit.

*Dose*—3 to 12 minims (0·18 to 0·7 cc.)

**Tinctura Physostigmatis.** *Dose*—5 to 15 minims (0·3 to 0·9 cc.)

**Physostigmina.** Physostigmine, Eserine,  $C_{15}H_{21}N_3O_2$ .—An alkaloid obtained from the alcoholic extract by treatment with an alkali and dissolving the alkaloid in ether. Colourless or pinkish crystals, slightly soluble in water, freely in alcohol and dilute acids.

Solutions of Physostigmine and its salts rapidly become red on keeping, but do not lose their efficacy thereby. All preparations of Physostigmine should be kept away from light.

*Dose*— $\frac{1}{1000}$  to  $\frac{1}{500}$  grain (0·00065 to 0·0013 gm.)

**Lamellæ Physostigminæ, B. P.**— $\frac{1}{1000}$  grain in each.

**Hypodermic Tablets** contain  $\frac{1}{1000}$  grain in each.

**Physostigminæ Hydrobromidum.**—Freely soluble in water. *Dose*— $\frac{1}{80}$  to  $\frac{1}{40}$  grain (0·0011 to 0·0032 gm.)

**Physostigminæ Salicylas, U.S.P.**—Eserinæ Salicylas, Physostigminum Salicylicum, P. G.—Colourless crystals, soluble 1 in 130 of water, 1 in 12 of alcohol. Both crystals and solution become red by keeping. *Dose*—Same as the last.

**Injectio Physostigminæ Salicylatis Hypodermica.**—1 in 100. *Dose*—1 to 6 minims.

**Physostigminæ Sulphas, B. P.**—Eserine Sulphas.—Yellowish white granular crystals, very soluble and deliquescent. *Dose*—Same as the others.

**Guttæ Physostigminæ.**—2 grains to 1 ounce.

**Guttæ Physostigminæ Fortiores.**—4 grains to 1 ounce.

**Guttæ Physostigminæ cum Cocaina.**—1 grain Sulphate of Physostigmine and 5 grains Hydrochloride of Cocaine to 1 ounce.

**Injectio Physostigminæ Sulphatis Hypodermica.**— $\frac{1}{4}$  grains to 1 ounce. *Dose*.—1 to 4 minims (0.06 to 0.24 cc.)

**Eseridine.**  $C_{15}H_{23}N_3O_3$ .—An alkaloid said to exist ready formed in Calabar Bean, and also to be producible from Physostigmine. It is sparingly soluble in water or ether, but soluble in dilute acids. It is permanent in solution, six times less poisonous than Physostigmine, and acts on the bowels with a minimum of disturbance of the nervous system. *Dose*.— $\frac{1}{32}$  to  $\frac{1}{16}$  grain (0.002 to 0.004 gm.)

### PHYTOLACCÆ RADIX, U.S.P.

**Poke Root.**—The root of *Phytolacca decandra* (Phytolacacæ), an American plant.

Emetic, purgative, and slightly narcotic. The fluid Extract has been used as an application, and internally for painful mammæ, also for syphilitic and rheumatic affections, catarrhal affections of mucous membranes, headache, dysmenorrhœa, congestion of the liver, etc.

**Extractum Phytolacæ Fluidum.**—Miscible with water. *Dose*.—2 to 10 minims (0.12 to 0.6 cc.) as an alterative; 20 to 30 minims (1.2 to 1.8 cc.) as an emetic.

**Tinctura Phytolacæ**—1 in 10. *Dose*.—3 to 10 minims (0.18 to 0.6 cc.)

**Phytolaccin.**—The powdered extractive. A powerful hepatic stimulant, also slightly stimulates the intestinal glands.—*Rutherford*. *Dose*.— $\frac{1}{4}$  to  $\frac{1}{2}$  grain (0.016 to 0.032 gm.) as an alterative; 2 to 4 grains (0.13 to 0.26 gm.) as a purgative.

### PICHI.

The leaves and twigs of *Fabiana imbricata* (Solanacæ), of North America and Chili. It has been said to contain an alkaloid, *Fabianine*, but this statement has been contradicted. The active principles appear to be a fluorescent glucoside, a volatile oil, and a crystalline neutral resin.

Pichi is useful in some urinary diseases. Though not adapted for cases of organic kidney disease, it is valuable in allaying the irritation of gravel or calculi and favouring their expulsion. Also used in cases of lumbago, sciatica, etc. Its use is contra-indicated where destruction of tissue and degenerative changes

have taken place ; consequently it should not be given in albuminuria, as it is liable to produce harmful effects.

**Extractum Pichi Liquidum.**—Not miscible with water, but may be rendered miscible by the addition of alkali. *Dose*—10 to 40 minims.

### PICRORHIZA KURROOA.

**Kutaki.** (Scrophularinæ) a Rhizome, containing a bitter principle *Picorhizin*. It is recommended as a remedy for worms, asthma, bile and fever, about two drachms of the powdered root, given with sugar and water act as a gentle aperient. *Dose*—as a tonic 10 to 20 grains as an antiperiodic 40 to 50 grains, best given with aromatics.

### PICROTOXINUM B. P.

**Picrotoxin.**  $C_9H_{10}O_4$ .—A neutral crystalline principle obtained from the seeds of *Anamirta paniculata* (*Anamirta Cocculus*), Menispermaceæ, commonly known as *Cocculus Indicus*. The plant is a large climbing shrub found in the Concan, Malabar, Travancore, Bengal and Assam.

Picrotoxin exists in the seeds to the extent of 0.4 to 1.0 per cent., is obtained by exhaustion with alcohol, evaporation and purification, and occurs in colourless and inodorous prismatic crystals, possessing a bitter taste. Sparingly soluble in cold water, more soluble in boiling water. Soluble in 13 parts of spirit and 10 parts of solution of potash ; the latter solution on boiling reduces Fehling's solution. With sulphuric acid and bichromate of potassium it gives a reaction somewhat similar to that of strychnine. Picrotoxin may be split up into *Picrotoxinin*, *Picrotin*, and *Anamirtin*.

A valuable remedy in night-sweats, useful also in some forms of epilepsy, and for dysmenorrhœa, leucorrhœa, etc. Externally it is a good parasiticide, and is useful for ringworm of the scalp, pediculi, and other parasitic diseases. It is a powerful poison.

*Dose*— $\frac{1}{100}$  to  $\frac{1}{2}$  grain (0.00065 to 0.0026 gm.), in pill or solution.

**Antidote.**—Chloral Hydrate and Picrotoxin are mutually antagonistic,  $\frac{1}{2}$  grain of the latter being neutralised by 30 grains of Chloral.

Picrotoxin is an antidote to morphine (*Ph. J.*, Mar. 2, '89), and chloroform asphyxia.

**Injectio Picrotoxini Hypodermica.**—1 grain in 360 minims of water. *Dose*—3 to 6 minims (0.18 to 0.35 ce.) Should be freshly prepared.

**Liquor Picrotoxini Aceticus.**—This keeps better than the last, and is suitable for internal administration. *Dose*—2 to 12 minims (0.12 to 0.7 ce.) in water.

**Pigmentum Picrotoxini.**—1 grain in 1 drachm with Acetic Acid Castor Oil, and Eucalyptus. For external use.—*M.*

**Unguentum Picrotoxini.**—10 grains to 1 ounce. The last two may be diluted if too strong, and should not be applied to abraded surfaces.

**Cocculus Indicus, P. I.**—The dried berries of the plant are used externally as an insecticide in the form of

**Unguentum Cocculi, P. I.**—80 grains to 1 ounce. Should not be applied where the skin is abraded.

**Cocculus Indicus** is largely exported to Europe but is little used in India. Its chief application is as a poison for wild cattle for purposes of capture.—*Pg. Ind.*

**PILOCARPINE.**—See page 185.

## PILLS.

Pills have always been a popular form for administering medicines, being portable, easily swallowed, and containing accurately divided doses. Pills must not be too hard (unless they are required to dissolve very gradually in the stomach), as they are liable to pass through the body unchanged, nor must they be so soft as to lose their shape. In a tropical climate, the former condition is most frequently met with, unless it be during the rains, when pills are very liable to become soft and run together; in any case, pills should always be kept in bottles, and, if possible, should be obtained coated, a process which not only assists their keeping powers, but renders them tasteless and more easily taken. The old-fashioned practice of gilding or silvering pill is rapidly giving way to the superior methods of varnishing and coating with Pearl Sugar, or Gelatine.

**Varnishing** is most suitable for small quantities of pills prepared by prescription. The varnish consists of sandarach, mastic, or tolu, and forms a good coating when the pills are not to be kept long.

**Pearl and Sugar Coated Pills** are very elegant, and keep well, but their size is an objection; moreover, pearl-coated pills have been frequently found to pass unchanged through the body, while sugar is a bad coating for a damp climate.

**Gelatine-coated Pills** are not too large, the gelatine coating being extremely thin; they are perfectly soluble, and they preserve the ingredients better than any of the foregoing methods. They are certainly liable to become damp and mildewed during the wet weather, but if the pills be thoroughly dried after being coated, and preserved in stoppered, or well-corked bottles, these objections are reduced to a minimum.

**Keratin-coated Pills** are used when the medicament is desired to pass through the stomach into the intestine unchanged, as in the case of Aloes. See page 192.

When pills are prescribed containing less than 1 grain of medicinal ingredients they are always made up with inert excipients to the size of 1 grain for the sake of uniformity. Such pills are in many cases termed *Granules*.

## PINUS.

The following preparation from the various species of *Pinus* (Coniferæ) are in use medicinally:—

**Pinus Sylvestris**, Scotch Pine, Scotch Fir.—From the wood of this, as well as other species, Oil of Turpentine is produced by distillation.

**Oleum Pini Sylvestris**, Firwood Oil.—The oil distilled from the fresh leaves. It is a colourless oil with an aromatic lavender-like flavour. Sp. gr. 0.870. It is used as a liniment for rubbing, or as an inhalation in chronic laryngitis in the form of

**Vapor Olei Pini Sylvestris**, B. P., 1885.—40 minims to 1 ounce, with Light Carbonate of Magnesium. One drachm in a pint of water, at 140° F. to be placed in an inhaler, so that air may be passed through the mixture and inhaled.

**Extractum Pini Sylvestris**, Fir Wool Extract.—A dark brown extract, prepared from *Pinus sylvestris*. It is readily soluble in water, 2 or 3 ounces in 30 gallons of warm water forming a good bath for rheumatism.

**Fir Wool Wadding**, Fir Wool.—Said to be composed of the fibres and hairs of *Pinus sylvestris*, and by others to be a cotton wool impregnated with the oil. It is used in conjunction with the oil for rheumatism, and is also made into **Pine Wool Felt**, from which are manufactured chest-protectors, belts, etc.

**Oleum Pini, B. P.**—The volatile oil distilled from the leaf of the snow-grown Mountain Pine, *Pinus Pumilio*, and known commercially as *Pumiline*, *Pinol*, etc. *Dose*.— $\frac{1}{2}$  to 3 minims (0.03 to 0.18 cc.)

It is a very pure essential oil, being said to be more agreeable and less irritating than other fir oils, and is recommended for gout, rheumatism, bronchitis, sore throat, and chest affections.

**Extractum Pini Pumilionis**, *Pumilio Pine Extract*, *Pumiline Extract*.—A thick semi-liquid extract prepared from the young shoots of *Pinus Pumilio*. It is very soluble in water, and is used for baths, poultices and plasters. In this form it is useful for skin diseases and sleeplessness, and also for rheumatism and like complaints.

**Pumilio Pine Soap** is also prepared.

**Wood Wool Wadding** and **Sanitary Wood Wool**.—These consist of finely-divided pine wood rendered antiseptic by means of Corrosive Sublimate. They are used as wound dressings and are made into diapers, pads, etc.

A nostrum known as "*Pinus Canadensis*" is sold as an astringent for making injections, gargles, lotions, etc. It is sold in two forms, *dark* and *white*.

## PIPERAZINE.

Diethylene-diamine, Hexahydro-pyrazine  $C_4H_{10}N_2$ .—A synthetic base, said to be identical with *Spermine* (see page 280). It occurs as a white crystalline powder, soluble in water, and non-poisonous. Piperazine has a remarkable power of dissolving urates, being said to be capable of dissolving 12 times as much uric acid as an equal weight of carbonate of lithium. It passes through the system unchanged, only combining with the uric acid and is found in this form in the urine. It does not make the urine alkaline, like the excessive use of the alkali salts, nor



does it allow uric acid or urates to deposit from the acid urine. *Dose*—4 to 10 grains (0·26 to 0·65 gm.) in dilute solution or preferably in aerated water.

**Granular Effervescent Piperazine.**—Contains 5 grains in 1 drachm. *Dose*—1 drachm (4 gm.)

**Granular Effervescent Piperazine with Phenacoll.**—Contains 5 grains of each in 1 drachm. *Dose*—1 drachm (4 gm.)

**Piperazine Water.**—15 grains to a syphon of aerated water, containing about 5 grains to an ordinary tumblerful.

**Piperazine Salicylate.**—Recommended as a specific in rheumatic or gouty affections; soluble in water and alcohol.

**Lycetol, Di-methyl-piperazine-Tartrate.**—Has an equal solvent action on uric acid with piperazine. *Dose*—4 to 10 grains (0·26 to 0·65 gm.)

## PIPERINA, U. S. P.

**Piperine.**  $C_{17}H_{19}NO$ .—A proximate principle of feebly alkaloidal powder, prepared from the fruit of *Piper nigrum* (Pepper,) and other plants of the Nat. Ord. Piperaceæ. In colourless or pale yellow crystals, almost insoluble in water, soluble in alcohol. It is not the active principle of Pepper. Heated with an alkali, it forms *Piperidine* ( $C_5H_9N$ ), a volatile alkaloid, which is the source of the pungency of Pepper, and is now believed to exist ready-formed in the berries.—*Ph. J.* Dec. 1, '88.

Piperine is an anti-pyretic and has been used in ague.—*B. M. J.*, '86, ii. 449, 613.

*Dose*—1 to 10 grains. (0·065 to 0·65 gm.)

**Piperonal**, an aldehyde corresponding to piperonic acid, is obtained by the oxidation of Piperine. It is in small white crystals, having the odour of vanilla, insoluble in water, soluble in alcohol and ether. Has been used as an anti-pyretic and anti-septic. Its anti-pyretic action is not strong, and it causes nausea, eructations, and dryness of the throat. *Dose*—15 grains (1 gm.) every 2 hours 3 or 4 times a day.



## PISCIDIA.

**Jamaica Dogwood.**—The root-bark of *Piscidia erythrina* (Leguminosæ,) a tree growing in the West India Islands. It is used in America for intoxicating and catching fish. The active principle is believed to be a resinoid *Piscidin*.

A good narcotic and general sedative, recommended in place of opium, as causing neither headache nor constipation, although somewhat inferior to opium as an analgesic, it dilates the pupil. Useful in bronchitis, phthisis, and facial neuralgia; locally it relieves toothache.

**Extractum Piscidiæ Liquidum.**—Not miscible with water. *Dose*—20 minims to 2 drachms (1.2 to 7 cc.)

## PIX.

The following are the principal varieties of this substance in use medicinally, with their preparations :—

1. **Pix Burgundica, B. P.**, Burgundy Pitch.—A resinous exudation from the stem of *Pinus Picea* (*Abies excelsa*.) Coniferæ, melted and strained, used to prepare **Emplastrum Picis, B. P.**

2. **Pix Carbonis Liquida Præparata, B. P. C.** Prepared Coal Tar.—Commercial Coal Tar, prepared by heating it for 1 hour at 120° F.

**Liquor Picis Carbonis, B. P.**—Solution of Coal Tar, a mixture of prepared Coal Tar and Tincture of Quillaia.

**Liquor Carbonis Detergens**—An alcoholic solution of Coal Tar, is a dark-coloured liquid. It is used as a lotion, 1 in 20 of water, or as an ointment, 1 to 8, for prurigo and other skin diseases.

3. **Pix Canadensis, U. S. P.**—Canada Pitch, Hemlock Pitch.—The resinous exudation of *Abies canadensis* (see page 1.) Used to prepare a **Plaster**.

4. **Pix Liquida, B. P.**, Wood Tar, *Goudron*.—Prepared by the destructive distillation of the wood of *Pinus sylvestris* and other species. A powerful anti-septic, due to the Creosote it contains. Internally Tar is given for bronchitis and chronic

catarrhal affections, externally it is used for chronic skin diseases. As a surgical dressing, it is used in the form of **Oakum** (old tarry rope carded,) or **Marine Lint** (tow impregnated with fresh tar.)

*Dose*—2 to 10 grains.

**Unguentum Picis Liquidæ, B. P.**, Tar Ointment.—Tar 5, Yellow Wax 2. Used in psoriasis and ringworm.

**Pixol**, a disinfectant from Tar made soluble by the aid of Potash soap and Caustic Potash.—Used in the treatment of acute psoriasis and chancre. Pencilled on in 10 to 13 per cent. solutions, 2 or 3 times daily.

**Aqua Picis**, Tar Water, *Eau de Goudron*.—1 in 200. *Dose*—5 to 10 ounces (140 to 280 cc.)

**Capsules de Goudron**, Tar Capusles.—Contain about  $2\frac{1}{2}$  grains each. *Dose*—1 or 2.

**Liquor Picis Ligni**.—Similar to solution of Coal Tar; prepared with Tincture of Quillaia.

**Pilula Picis Liquidæ**.—2 grains each (0.13 gm.) *Dose*—1 or 2.

**Syrupus Picis Liquidæ**.—6 per cent. *Dose*—1 to 4 drachms (3.5 to 15 cc.)

**Oleum Picis Rectificatum**, Light Oil or Spirit of Tar.—A colourless or pale yellow light oil distilled from Wood. Tar. Sp. gr. 0.853 to 0.867. Used for making Coster's Paste. (See page 179).

5. **Empyreumatic Oils**.—The following pyroligneous or empyreumatic oils are used in the treatment of skin-diseases:—

**Oleum Cadinum, B. P.** Juniper Tar Oil, *Huile de Cade*.—An empyreumatic oily liquid obtained by destructive distillation of the woody portions of *Juniperus Oxycedrus* (Coniferæ), and another species. A dark brown liquid, used in psoriasis and eczema. It is soluble in oils, fats, etc., also in ether and chloroform, but only slightly in spirit.

**Unguentum Olei Cadini**.—Equal parts of Yellow wax and *Huile de Cade*.

**Oleum Rusci.**—A Tar, having the odour of Russia leather, and said to be obtained from Butcher's Broom. It is used in some skin diseases. Must be distinguished from the German *Oleum Rusci*, which is prepared by digesting Butcher's Broom in Olive Oil. It is a Birch Tar, identical with—

**Oleum Betulæ Albæ**, Birch Tar.—Prepared by the destructive distillation of the wood of *Betula Alba*. It is used to give the odour to Russia leather.

**Liquor Rusci Detergens.**—A solution of Birch Tar in alcohol, which is miscible with water, and free from the objectionable qualities of the crude oil. It is used as a lotion for eczema and other chronic skin affections, being diluted with 16 times its bulk of water.—*C. & D.*, July 27, '89.

**Oleum Fagi Pyroligneum**, Beech Tar. Is used as a source of Creasote (see page 115.)

### PODOPHYLLI RESINA, B. P.

**Podophyllin.**—The resin obtained from the rhizome of American mandrake, May apple, or vegetable mercury, *Podophyllum peltatum* (Berberidacæ), also from the species found on the Himalayas, *P. emodi*, by percolation with spirit and precipitation with water. A yellowish brown powder, forming a cloudy solution with spirit, and a clear solution with aqueous ammonia. The active principle is a crystalline substance **Podophyllotoxin**, the amorphous form of which is given in doses of  $\frac{1}{16}$  to  $\frac{1}{8}$  grain; this again may be split up into *Picropodophyllin Acid*, *Picropodophyllin*, and *Podophyllin Acid*.—*Podwissotzki*.

The resin obtained from the Indian plant, *P. emodi*, occurs in much greater quantity than that from the American species. American *Podophyllum* yields on an average, 5 per cent. of resin while the Indian species has been found to yield 10 to 12 per cent.—*Pg. Ind.* i. 69; *Ph. J.*, Jan. 26, '89. The resin obtained from *P. emodi*, moreover, contains 56 per cent. of Podophyllotoxin, as against 40 to 45 per cent. yielded by American Podophyllin.—*Ph. J.*, May 31, '90; *M. R.*, Sept. '90.

Podophyllin is an active cholagogue and purgative, and is useful in sick headache and biliousness. It is also given combined with Pepsin, Belladonna, etc., (see below).

*Dose*— $\frac{1}{4}$  to 1 grain (0.016 to 0.065 gm.)

**Tinctura Podophylli, B. P.**—1 grain to  $\frac{1}{2}$  drachm. *Dose*—5 to 15 minims (0.3 to 0.9 cc.), contains twice the proportion of Podophyllin Resin to that of the B. P. 1885.

**Tinctura Podophylli Ammoniata.**—Made with Aromatic Spirit of Ammonia. It is miscible with water, while the salvolatile acts as a corrective.—*M.* *Dose*—2 to 6 minims (0.12 to 0.35 cc.)

**Tinctura Podophylli (Dobell's).**—1 grain to 1 ounce with one drachm Essence of Ginger. *Dose*—One drachm in water at bed-time.

**Pilulæ Podophylli.**— $\frac{1}{4}$  grain each, alone or combined with aperients.

**Pilulæ Podophylli cum Belladonna et Strychnina, Tonic Liver Granules.**—Contain in each pill

Podophyllin ... ..  $\frac{1}{4}$  grain

Extract of Belladonna... ..  $\frac{1}{8}$  grain

Strychnine ... ..  $\frac{1}{30}$  grain

Gelatine-coated. *Dose*—One, morning and evening. These form a valuable medicine where hepatic disorder is due to defective nerve influence.

**Pilulæ Podophylli et Pepsinæ, Digestive Granules.**—Contain in each pill  $\frac{1}{4}$  grain Podophyllin in combination with Pepsin.

**Liquor Podophylli,**

**Liquor Podophylli cum Belladonna et Strychnina,** and

**Liquor Podophylli et Pepsinæ,** are liquid representatives of the above pills. *Dose of each*—One drachm.

### PONGAMIAE OLEUM.

**Pongamia Oil; Honge Oil.**—The oil expressed from the seeds of Karanj, *Pongamia glabra* (Leguminosæ,) a tree common in India. It is a yellow brown bitter oil, sp. gr. 0.935, solidifying at 46.4° F. It occurs to the extent of 27 per cent. of the seeds.

It is used for illuminating purposes, and is valued as a remedy for skin diseases, chiefly scabies, herpes, and complaints of a like nature, and is best used shaken up, with an equal quantity of

lemon-juice, when it forms a rich yellow liniment. The oil is also used as an embrocation in rheumatism.—*P. I.* The combination of oil and lemon-juice is efficacious in psoriasis and pityriasis.

The juice of the stem, root, and leaves, appear to possess similar properties, and are used by the natives for a great variety of diseases.

## POTASSIUM.

**Liquor Potassæ (Brandish),** Brandish's Alkaline Solution.—Prepared from Pearl Ash, Wood Ash, Quicklime, and Water *Dose*— $\frac{1}{2}$  to 2 drachms for serofulous tumours.

**Potassii Benzoas.**—A crystalline powder, freely soluble in water, given in cystitis with lithic acid diathesis. *Dose*—15 to 20 grains. (1 to 1·3 gm.)

**Potassii Bichromas, B. P.** *Dose*— $\frac{1}{10}$  to  $\frac{1}{2}$  grain (0·0065 to 0·013 gm.) in pill with Kaolin ointment. For Dyspepsia.

**Potassii Cantharidas.**—Soluble in water. Recently introduced by Professor Liebreich, as a remedy in the treatment of tuberculosis. *Dose*— $\frac{1}{320}$  grain to  $\frac{1}{160}$  grain. The solution is prepared by dissolving 0·3 grammes crystallised cantharidine and 0·8 grammes chemically pure potassium hydrate in 10 c. c. distilled warm water, cooling and making up to 1 Litre with distilled water. 1 c. c. contains  $\frac{1}{200}$  grain.

**Potassii Cobaltonitris,** Cobalto-nitrite of Potassium.—A yellow or olive-coloured crystalline powder, slightly soluble in water. It relieves arterial tension, and lessens the dyspnoea of uræmia and asthma, without producing so much discomfort as other nitrites. *Dose*— $\frac{1}{2}$  grain (0·032 gm.) every 2 or 3 hours.—*Ph. J.*, Nov. 3, '88.

**Potassii Cyanidum, KCN.**—A solution of this is sometimes used in place of Hydrocyanic Acid. 1 grain in 23 minims of water, being equivalent in strength to Acidum Hydrocyanicum, *B. P.* *Dose*— $\frac{1}{12}$  to  $\frac{1}{4}$  grain (0·0054 to 0·016 gm.) Hydrocyanic Acid of approximate strength to the *B. P.* (1 grain in 1 drachm) may be readily prepared by dissolving 20 grains of the Cyanide in 6 drachms of water, and, separately, 50 grains of crystallised Tartaric Acid in 3 drachms of spirit, and mixing the solutions. Cream of Tartar is precipitated, and the solution, when filtered, contains the required amount of Hydrocyanic Acid.

**Potassii Hypophosphis, U. S. P.**—See page 235.

**Charta Nitrata, P. G.**, Nitrated Paper.—Porous paper soaked in solution of Nitrate of Potassium and dried. The fumes of these when burnt are inhaled for asthma.

**Ozone Papers**, used for a similar purpose, are prepared with Nitrate and Chlorate of Potassium. See also **Stramonium**, page 282.

**Potassii Permanganas, B. P.**, Permanganate of Potassium.  $\text{KMnO}_4$ .—In dark purple prismatic crystals, freely soluble in water, forming a rich purple solution. Used as an antiseptic, caustic, and deodoriser; internally it is very valuable in amenorrhœa and anæmia. It imparts a brown stain to all organic substances, by which it is readily decomposed; its solution should not therefore be kept in corked bottles. When made into pills, care should be taken not to combine it with any vegetable or animal ingredient; inorganic excipients should be used, and the pills should be pearl-coated, or sprinkled with French chalk.

Has been found very useful in amenorrhœa, given in **Pills** (1 to 3 grains) (0·065 to 0·2 gm.) 3 or 4 times a day, for a few days before the expected period.—*L.*, Jan. 6, '85.

An injection of  $\frac{1}{2}$  grain in 1 ounce has been recommended for gonorrhœa.—*L.*, '83, i. 45.

Has also been recommended for snake-bite.—*L.*, '88, i. 1007 1115.

This salt is largely used in India to purify well-water.

**Liquor Potasæ Permanganatis, B. P.**, 1 per cent. *Dose*—2 to 4 drachms (7 to 15 cc.); its taste being very nauseous, however, it is never given in this form.

**Sodii Permanganas**.—A solution of this is green in colour, and is used as a disinfectant like the Potassium Salt. Being cheaper, is used for common purposes.

**Calcii Permanganas**.—See page 78.

**Zinci Permanganas**.—See page 306.

**Potassii Phosphas**  $\text{K}_2\text{HPO}_4$ .—A deliquescent powder. Acts as an alterative, and, as such, is given in urinary complaints and phthisis. *Dose*—1 to 10 grains (0·065 to 0·65 gm.)

**Potassii Salicylas**.—A white crystalline powder, soluble in water. *Dose*—5 to 30 grains (0·32 to 2 gm.)

**Potassium and Aluminum Salicylate.**—A double salt produced, when potassium and aluminum salicylate are heated together. Soluble in water. No clinical data.

**Potassii Silicas.**—See page 277.

**Potassii Succinas,** Succinate of Potassium.—A deliquescent powder; has been used as an internal hæmostatic. *Dose*—5 to 10 grains (0·32 to 0·65 gm.)

**Potassii Sulphis, U S P.**— $K_2SO_4 \cdot 2H_2O$ . A deliquescent crystalline powder, freely soluble in water. Given for sarcinæ ventriculi. *Dose*—10 grains (0·65 gm.)

**Potassii Telluras** Tellurate of Potassium.—Recommended as a remedy for night-sweats in phthisis. It does not produce toxic symptoms, but imparts a disagreeable tellurium odour to the breath. *Dose*— $\frac{1}{2}$  grain (0·02 gm.) daily, in a pill.—*M. R.*, Oct. '90.

**Vienna Paste.**—See page 224.

## PRUNUS VIRGINIANÆ CORTEX, B. P.

Wild Cherry bark—Contains amygdaline, and yields an essential oil on distillation with water, containing hydrocyanic acid.

**Syrupus Pruni Virginianæ, B P.** *Dose*— $\frac{1}{2}$  to 1 drachm (1·8 to 3·5 cc.)

**Tinctura Pruni Virginianæ, B. P.** *Dose*—30 to 60 minims (1·8 to 3·5 cc.)

**Prunin.**—Cerasin *Dose*—1 to 5 grains (0·065 to 0·32 gm.) Prepared by evaporating the tincture and powdering the extract.

**PTYCHOTIS.**—See page 29.

## PULSATILLA, U. S. P.

**Pasque-Flower.**—The flowering herb of *Anemon Pulsatilla*, *A. pratensis*, and *A. patens* (Ranunculacææ) imported chiefly from Germany. It should be carefully preserved, and not kept longer than one year.



*Pulsatilla* paralyses the medulla oblongata and spinal cord, and excites irritation of the digestive tract and kidneys. It is used as an alterative and antispasmodic, and is valuable in amenorrhœa and hysteria, being often given in conjunction with *Caustophyllin* (see page 90). It has also been found very valuable in orchitis and epididymitis, mitigating the pain and causing rapid recovery. —*L.*, Jan. 15, '87.

**Extractum Pulsatillæ Liquidum.**—Miscible with water. *Dose*—1 to 5 minims.

**Tinctura Pulsatillæ.**—1 in 10, made from an equivalent quantity of the fresh plant. *Dose*—1 to 5 minims (0.06 to 0.3 cc. :) in amenorrhœa and dysmenorrhœa; 1 minim every hour or 2 hours, a few days before the period. A lotion of 1 to 10 of water is useful for leucorrhœa.

**Anemonin.** *Pulsatilla* Camphor.  $C_{15}H_{12}O_6$ .—A white crystalline substance obtainable from various species of *Anemone*. It is volatile, insoluble in ether, slightly soluble in alcohol and water, more so in chloroform. It is given in bronchitis, asthma, and convulsive cough. Poisonous. *Dose*— $\frac{1}{60}$  to  $\frac{1}{12}$  grain (0.001 to 0.0054 gm.)

**PYOKTANIN.**—See page 44.

## PYRANTIN.

A new antipyretic, has been introduced by Professor Piatti under this name. It is ethoxyphenylsuccimide. Insoluble in ether, sparingly soluble in water.

## PYRIDINA.

**Pyridine.**  $C_5H_5N$ .—A liquid alkaloid obtained in the destructive distillation of bones. It is a colourless, mobile liquid, with a powerful empyreumatic odour, boiling at  $242^{\circ}$  F., sp. gr. 0.985, and is freely miscible with water, alcohol, ether, and chloroform. It is chemically related to several vegetable alkaloids as Cocaine, and forms crystalline salts with acids.

It is used to relieve the dyspnoea of asthma, and is believed to be the active agent in the various cigarettes, etc., recommended for that complaint. A drachm placed on a plate, and the vapour

of this inhaled twice, or three times a day, eases respiration and soon effects a cure. Has also been used in angina pectoris and cardiac failure.—*L.*, '88, ii. 438.

*Dose*—5 to 10 minims (0.3 to 0.6 cc.) or more daily. Must be distinguished from *Pyrodin*, the antipyretic.

**PYRODIN.**—See page 159.

### PYROXYLIN.

**Pyroxyline, B. P.**—Guncotton; Gossypium Fulminan; Colloxylinum.—Tetra and Trinitro-cellulose. Prepared by treating cotton wool with a mixture of Nitric and Sulphuric Acids.

### QUEBRACHO.

**White Quebracho.**—The bark of *Aspidosperma Quebracho*, from Chili. It is used in bronchitis, phthisis, and to relieve the dyspnoea of asthma. It appears to assist the oxygenation of the blood, as well as to stimulate the respiratory centres.

**Extractum Quebracho Liquidum.**—Not miscible with water. *Dose*—15 to 60 minims (0.9 to 3.5 cc.)

**Tinctura Quebracho.**—1 in 5. *Dose*— $\frac{1}{2}$  to 1 drachm. (1.8 to 3.5 cc.) **Quebracho** contains six different alkaloids, viz., *Aspidospermine*, *Quebrachine*, *Quebrachamine*, *Aspidospermatine*, *Hypoquebrachine*, and *Aspidosamine*. Commercial *Aspidospermine* is a mixture of all six, and represents fairly well the activity of the drug.

**Aspidosperminæ Sulphas.**—Used hypodermically as an antipyretic, and for relieving dyspnoea. *Dose*— $\frac{1}{8}$  to  $\frac{1}{4}$  grain (0.001 to 0.002 gm.) hypodermically.

**QUINETUM.**—See page 99.

### QUINIDINÆ SULPHAS, U. S. P.

**Quinidine Sulphate; Conquinine or Conchinin Sulphate.**  $(C_{20}H_{21}N_2O_2)_2 \cdot H_2SO_4 \cdot 2H_2O$ .—The neutral sulphate of an alkaloid prepared from different species of cinchona, chiefly *C. pitayensis*. In white silky needles, similar to Sulphate of Quinine, having a very bitter taste. Slightly

soluble in water, more soluble in alcohol; freely in dilute acids. It may be distinguished from Cinchonidine and Cinchonine, by its acid solution being fluorescent, and giving with chlorine water and ammonia an emerald green colour (thalleioquin); also from Quinine by its giving with chlorine water, ferricyanide of potassium, and ammonia, a permanent bulky precipitate; while the same reagents give with Quinine only a red coloration which quickly disappears.

Quinidine Sulphate is a valuable anti-periodic, second to Quinine, 3 grains of the latter being equivalent to 5 of Quinidine (see page 102). It is useful in Ague, etc. *Dose*—1 to 20 grains (0.065 to 1.3 gm.)

## QUININA.

**Quinine; Chinin.**  $C_{20}H_{21}N_2O_2, 3H_2O$ .—The most important alkaloid of Cinchona bark, (see page 99). The pure alkaloid is official in the *U. S. P.*, and is a white. Amorphous, or minutely crystalline powder, very sparingly soluble in water; freely in alcohol, ammonia, and dilute acids. Its acid solution is lævogyrate, fluorescent, and gives a green colour with chlorine water and ammonia. It may be distinguished from the other alkaloids of cinchona by the tests already referred to, (see page 102 and above.) It is isomeric with Quinidine.

Quinine and its salts are powerful tonics and anti-periodics and are employed very largely in India for ague and malarial fevers. They are also used for neuralgia.

*Dose of Alkaloid*—1 to 4 grains (0.065 to 0.26 gm.) or more.

*Quinine Salts and Preparations*—

**Oleum Morrhuæ cum Quinina.**—See page 214.

**Quininæ Arsenas.**—Small white crystals, sparingly soluble in water. Contains about 66 per cent. of Quinine, and 29 per cent. of Arsenic Acid.—*Ph. J.*, Aug. 31, '89. It is given in chronic malarial fevers. *Dose*— $\frac{1}{4}$  to  $\frac{1}{2}$  grain (0.008 to 0.032 gm.)

**Quininæ Bisulphas.**—See page 257.

**Quininæ Carbolas.**—<sup>1</sup> cry-talline salt containing 77 per cent. Quinine, and 23 per cent. Carbolic Acid, given for diarrhœa. *Dose*—2 grains. The Sulphocarbolate (see page 257.) is commonly known as Carbolate of Quinine, and is more generally used.

**Quininæ Carbonas.**—Recommended as being less bitter than the ordinary Quinine salts. In fine needles. Fairly soluble in water.—*B. & C. D.*, Oct. 25, '95.

**Quininæ Chloras.**—In small acicular crystals, slightly soluble in water. *Dose*—1 to 5 grains (0.065 to 0.32 gm.)

**Quininæ Citras.**—Like the Sulphate in appearance, sparingly soluble in water. *Dose*—1 to 5 grains (0.035 to 0.32 gm.) or more.

**Ferri et Quininæ Chloridum.**—Hygroscopic bitter styptic taste, hæmostatic and non-caustic; useful in epistaxis. Internally, one grain every hour.

**Ferri et Quininæ Citras, B. P.**—In greenish golden-yellow scales, freely soluble in water, having a bitter chalybeate taste. Contains 16 per cent. of Quinine. *Dose*—5 to 10 grains (0.32 to 0.65 gm.)

**Syrupus Ferri et Quininæ Citratis**—5 grains in 1 drachm.

**Granular Effervescent Citrate of Iron and Quinine.**—3 grains of the salt in 1 drachm.

**Ferri, Quininæ. et Strychninæ Citras.**—Contains 1 per cent. of Strychnine. Similar in properties to the Quinine and Iron salt. *Dose*—3 to 10 grains (0.2 to 0.65 gm.)

**Quininæ Fluoridum**—Slightly soluble in cold, more so in hot water. Useful in spleen and rickets, (see page 13). *Dose*— $\frac{1}{16}$  to  $\frac{1}{2}$  grain (0.0026 to 0.032 gm.)

**Quininæ Hydrobromidum, U. S. P.**—Colourless crystals, more soluble in water than in Sulphate. The Hydrobromide produces less cinchonism when given in large doses. *Dose*—1 to 5 grain (0.065 to 0.32 gm.)

**Syrups** containing Hydrobromide of Quinine, see page 137.

**Quinine Hydrobromidum Acidum.**—Yellowish crystals, very soluble in water. It is also richer in alkaloid than the sulphate, and therefore may be given as **Hypodermic Injection** (1 grain in 6 minims.) *Dose*— $\frac{1}{2}$  to 2 grains (0.032 to 0.13 gm.;) 3 to 12 minims (0.18 to 0.7 cc.) of the injection. Useful in ague, when the alkaloid cannot be borne by the stomach.

**Hypoërmic Tablets** contain  $\frac{1}{2}$  grain each.

**Quininæ Hydrochloridum, B. P.**—Muriate of Quinine. Acicular crystals, soluble 1 in 24 of water, and containing 83 per cent. of Quinine. Used similarly to the Sulphate, also a solution 1 in 800 as a germicide. *Dose*—1 to 10 grains (0·065 to 0·65 gm.)

**Vinum Quininæ, B. P.**—1 grain Quinine Hydrochloride to 1 oz. Orange wine.

*Dose.*— $\frac{1}{2}$  to 1 ounce (15 to 30 cc.). *Now made with Quinine Hydrochloride, instead of Quinine sulphate, and the citric acid omitted.*

**Tinctura Quininæ, B. P.**—1 grain in 60 minims. *Dose*— $\frac{1}{2}$  to 1 drachm (1·8 to 3·5 cc.)

**Quininæ Glycerophosphas.**—A white powder, soluble in alcohol, slightly in hot water, contains 68 per cent. Quinine. Recommended in Neuralgia. *Dose*—3 to 8 grains (0·2 to 0·52 gm.)

**Quininæ Hydrochloridum Acidum, B. P.**—White crystalline powder, soluble in its own weight of water; given hypodermically. *Dose*—1 to 10 grains (0·065 to 0·65 gm.)

**Quininæ Hydrochloro-Sulphas.**—Soluble, 1 in 1 of water, very suitable for subcutaneous injections, which are said to be less painful than sulphate or hydrochloride. *Dose*—Same as sulphate.

**Quininæ Hydrochloro Carbamidum.**—*Urea Quinine.* *Dose*—5 to 15 grains (0·32 to 1 gm.) Soluble, 1 in 1 of water, used for Hypoërmic injection in cholera.

**Quininæ Hyrofluosilicas.**—A *basic* and a *normal* salt have been introduced. They are soluble in water, and are suggested as anti-pyretics and anti-septics.

**Quininæ Iodas, Iodate of Quinine.**—White silky needles, soluble in water. *Dose*—1 to 5 grains (0·065 to 0·32 gm.)

**Quininæ Iodidum; Quininæ Hydriodidum.**—A *neutral* salt in pale yellow crystals, slightly soluble in water, and an *acid* salt in large yellow crystals, freely soluble in water. *Dose*—1 to 5 grains (0·065 to 0·32 gm.) The acid salt may be given in Syrup of Iodide of Iron, 2 grains in 1 ounce of the syrup, in drachm doses.

**Quininæ Lactas.**—A white powder, soluble in water. It is suitable for hypodermic injection—*T. G.*, Apr. '89. A 1 per cent. solution has been recommended as an injection for gonorrhœa. *Dose*—1 to 5 grains (0.065 to 0.32 gm.)

**Quininæ Oleatum.**—See page 214.

**Quininæ Phosphas.**—Crystals like the Sulphate, but denser. *Dose*—1 to 5 grains (0.065 to 0.4 gm.)

**Quininæ Salicylas.**—White silky needles, sparingly soluble in water, even with the addition of acid, therefore, best given in pills. Used for diarrhœa, rheumatic gout, neuralgia, etc. *Dose*—2 to 6 grains (0.13 to 0.4 gm.) in acid solution.

**Quininæ Sulphas, B. P.**, Sulphate of Quinine.—Disulphate of Quinine, 'Quinine.'—In light silky acicular crystals, very bitter in taste, slightly soluble in water, or alcohol, soluble in ammonia and dilute acids. It is a valuable tonic in small doses, and anti-periodic in large doses. *Dose*—1 to 5 grains as a tonic, 5 to 15 grains (0.065 to 0.32 gm.) or more, as an anti-periodic.

*Incompatibles.*—Tannin and vegetable astringents; alkalies and alkaline carbonates; Salicylate of Sodium in acid solution.

Quinine may be administered in solution, the salt being dissolved by the addition of an acid, preferably dilute sulphuric acid, about 1 minim for each grain of Quinine. Large doses are often considered more efficacious, if given without acid; in such cases, it may be given in cachets, or mixed in water. It is also conveniently given in the form of

**Quinine Pills** (Gelatin coated.)— $\frac{1}{2}$ , 1, 2, 3, 4, and 5 grains each.

**Febricide Pills**, an American remedy, contain Quinine Sulphate, Acetanilid, of each 2 grs.: Cocaine Hydrochlorate  $\frac{1}{2}$  grain. *Dose*—1 or 2, thrice daily, for malarial affections.

3 grains to 1 ounce has been recommended as an eye-lotion in diphtheritic ophthalmia.—*L.*, '81, ii. 12.  $\frac{1}{2}$  grain to 1 ounce is used as a nasal douche for hay-fever, a little placed in the palm of the hand and drawn up the nose.—*M.*

Notes on the Chemistry of Quinine and Cinchona Alkaloids.—*Ph. J.*, xvii. 654; xviii. 517, 582; xix. 862.

Tests, etc., for Quinine.—*Ph. J.*, xvii. 485, 505, 554, 585, 645, 974; xviii. 235; xix. 665.



**Tinctura Quininæ Ammoniata, B.P.**—The Quinine is held in solution by ammonia, and alcohol. Not miscible with plain water, but forms a perfectly clear solution with aerated water, soluble carbonate being formed. Useful in influenza and similar complaint. *Dose*— $\frac{1}{2}$  to 1 drachm (1.8 to 3.5 cc.)

**Warburg's Fever Tincture.**—A tincture containing Quinine, Aloes, Opium, Rhubarb, Camphor, and Aromatics. A very valuable remedy in malarial fever. *Dose*—Half an ounce (15 cc.) The bowels to be emptied by means of any convenient purgative, one dose of the tincture, undiluted, then to be given, and repeated in the same way after 3 hours. All food and drink should be withheld and the patient kept in bed.

**Pills** are prepared each equal to 1 drachm of the Tincture, with or without Aloes.

**Quininæ Sulphas Acida:** Neutral or soluble Sulphate of Quinine, Quininæ Bisulphas, U. S. P.—In large colourless crystals, soluble in about 10 parts of water, with blue fluorescence. *Dose*—1 to 10 grains (0.065 to 0.65 gm.) It is also used as a **Hypodermic Injection**, 1 grain in 12 minims. *Dose*—4 to 15 minim (0.24 to 1 cc.)

**Quininæ Sulphocarbolas.**—An amorphous white powder, sparingly soluble in water. Sometimes known as Carbolate of quinine; the true Carbolate is made by direct combination of Quinine (alkaloid) and Phenol, the Sulphocarbolate by a similar combination of Quinine Sulphate with Phenol. It combines the action of Quinine with that of the Sulphocarbolates. *Dose*—1 to 6 grains (0.065 to 0.4 gm.)

**Quininæ Tannas**—A whitish amorphous powder, sparingly soluble in water. Being tasteless; it is recommended for children. *Dose*—1 to 4 grains, in milk (0.065 to 0.26 gm.)

**Quininæ Tartras**—Sparingly soluble in water. *Dose*—1 to 4 grains (0.065 to 0.26 gm.)

**Quininæ Valerianas.**—In white crystals or powder, with a slight odour of Valerian. Slightly soluble in water, best administered in pill. Given in hysteria and nervous headache. *Dose*—1 to 4 grains (0.065 to 0.26 gm.)

**Euchinin; Euquinine.**—Formed by the action of Ethylchlorocarbonate on quinine, crystallizes in needles, is soluble in



alcohol, ether and chloroform, but slightly in water. Possesses the therapeutic qualities of Quinine, without its bitter taste or digestive disturbance. *Dose*—3 to 15 grains (0·2 to 1 gm.)

**Quinoral.**—A compound of Quinine and Chloral, an oily viscid, neutral, very bitter liquid, miscible in all proportions with aqueous and spirituous liquids. Said to be free from the irritating properties of Quinine or of Chloral, and does not affect the heart. Credited with being an antiseptic of the highest order. *Dose*—8 to 15 grains (0·05 to 1 gm.).—*A. M. S. B.*, Feb. 25, '98.

## RANDIA.

**Mainphal, Gelaphal.**—The fruit of *Randia dumetorum* (Rubiaceæ,) a shrub common in India, has long been used in India as an emetic, and as a remedy for dysentery, also as a fish poison. As it contains valerianic acid it has recently been recommended as an anti-spasmodic, in the form of

**Tinctura Randiæ Ætherea.**—1 in 5, prepared with spirit of ether. Has a bright maize colour, and characteristic odour and taste, the valerian odour becoming very apparent on diluting with water and adding acetic acid. *Dose* 15 to 60 minims as an anti-spasmodic.—*L.*, Mar. 2, '91; *M. R.*, May, '91.

## RESORBIN.

A new ointment basis, introduced under the above name, consisting of almond oil, wax, small additions of gelatine, soap, and lanoline. Resorbin is said to differ especially from other ointments in being rapidly absorbed by the skin, after gentle friction, and only leaving a small residue of grease on it, thus forming a suitable medium for incorporating medicine into the skin.

## RESORCIN.

**Resorcinol Meta-di-Hydroxybenzene.**  $C_6H_4(OH)_2$ . A derivative of phenol or benzol, isomeric with Pyrocatechin and Hydroquinone. White crystalline prisms, very soluble in water, alcohol, and ether. It acquires a faint reddish colour by keeping or by exposure.

A powerful anti-pyretic and anti-septic, externally caustic. As an anti-pyretic, its action is similar to Quinine, but not so lasting:

it also causes profuse perspiration. As an anti-septica 1 per cent. solution is a useful surgical dressing, and also makes a good lotion for conjunctivitis. 5 per cent. forms a valuable non-irritating injection for gonorrhœa, and inflammatory affections of the bladder, while a still stronger solution may be used for syphilitic sores, and skin diseases. For acne, an ointment consisting of Resorcin  $2\frac{1}{2}$  to 5, Oxide of Zinc 5, Starch 5, and Vaseline 10, applied as constantly as possible, is said to effect a rapid cure. In eczema of the eyelids, 9 grains to 1 ounce of Cold Cream, applied 3 or 4 times a day, avoiding application of water to the lids, has been recommended. *Dose*—3 to 8 grains (0.2 to 0.52 gm.)

**Plaster Mulls**, contain  $\frac{3}{4}$  grain to the square inch.

*Antidotes*.—Red wine; white of egg; stimulants; wash the stomach with Soda or Lime Water; Atropine; Amyl Nitrite.

**Thioresorcin**,  $C_6H_4(8H)_2$ .—Obtained from Resorcin, by treatment with sulphur in the presence of an alkaline solution. A yellowish grey amorphous powder, insoluble in the ordinary solvents, soluble in alkaline solutions. It has been used as an odourless substitute for Iodoform.—*Ph. J.*, Mar. 2, '89.

**Di-iodothio-resorcin**.—A brown powder, insoluble in water, soluble in alcohol, recommended for similar use.

**Resorcinol**.—A compound of Resorcin and Iodoform. A red brown powder, soluble in ether, partially soluble in water. A substitute for Iodoform as a dressing.

**Resorcine Monacetate**, Eresol.—A thick honey-like paste, with an agreeable odour. Used as resorcin, and from its oily consistence useful where the parts are covered with hair.—*Ph. J.*, Jan. 21, '99.

## RETINOL.

**Rosinal, Resinol**,  $C_{32}H_{22}$ .—A liquid hydrocarbon, obtained by the dry distillation of fir resin. A brownish yellow liquid, with slightly bitter taste, soluble in alcohol, ether, turpentine, balsams, fatty oils, glycerine, vaseline, lanolin, etc. It also dissolves a number of substances, such as creasote, aristol, phosphorus, carbolic acid, salol, cocaine, etc. For gonorrhœa either pure, or

mixed with salol. In skin diseases in combination with other remedies. An excellent medium for the internal administration of phosphorus; a solution of phosphorus in this medium will keep unchanged for months. *Dose*—4 to 8 minims in capsules, emulsion, alcoholic solution, or in olive oil.

### RHAMNI FRANGULÆ CORTEX.

**Frangula Bark; Frangula, U. S. P.; Buckthorn; Black Alder.**—The dried bark of *Rhamnus Frangula* (*Rhamnaceæ*), collected at least one year before being used. It contains a glucoside *Frangulin*, and *Emodin*; the latter, a decomposition product of the former, is also found in rhubarb root. In fresh bark, no Frangulin is found, and at most only traces of Emodin.—*Ph. J.*, Sept. 1, '88; *Journ., Chem. Soc.*, Feb. '90.

Frangula is a tonic laxative, specially suited for delicate persons, as it does not cause griping or irritation, and the dose does not require increasing after continued administration. It is useful in cases of hæmorrhoids.

**Extractum Rhamni Frangulæ.**—Solid extract. *Dose*—15 to 60 grains (1 to 1 gm.)

**Extractum Rhamni Frangulæ Liquidum.**—Miscible with water. *Dose*—1 to 4 drachms (3·5 to 15 cc.)

**Syrupus Rhamni Frangulæ.** *Dose*—1 to 4 drachms (3·5 to 15 cc.)

**Aperient Fruit Lozenges.**—A proprietary preparation made from *Rhamnus Frangula*.

**RHAMNI PURSHIANI CORTEX.**—See page 87.

### RHINACANTHUS.

**Tong Pang Chong; Gachkaran.**—The leaves and root of *Rhinacanthus communis* (*Acanthaceæ*), a small shrub common in Western India. It contains 1·87 per cent. of a red resinous substance *Rhinacanthin* ( $C_{11}H_{14}O_7$ ), apparently related to chrysophanic acid.

It is used as a remedy for ringworm, especially the variety known as *dhobie's itch*. The leaf or other part of the plant is made into a paste with lime-juice, and applied to the affected part for several days. The leaves and root have been long regarded in Southern India as antidotes to snake bite.

**Succus Rhinacanthi.**—The expressed juice. It is useful for ringworm and other skin diseases of a parasitic nature.

## RHUS.

**Rhus Toxicodendron, U. S. P. Poison Oak; Poison Ivy.**—The leaves of *Rhus Toxicodendron* (Anacardiaceæ), of North America.

Used in rheumatism and obstinate skin affections. It has the properties of a stimulant narcotic, and promotes the secretory functions of the skin and kidneys. It is poisonous.

*Antidotes*.—Emetics; demulcents; alkalies.

**Extractum Rhois Liquidum.**—Not miscible with water. *Dose*.—3 to 30 minims (0.18 to 1.8 cc.)

**Tinctura Rhois.**—Made in America from the fresh leaves, 1 in 2; in Germany from the expressed juice, 5 in 11. *Dose*.—5 to 15 minims (0.3 to 0.9 cc.)

**Rhus Plaster** is also imported.

## RHUS AROMATICA.

**Sweet Sumach.**—The root bark of *Rhus Aromatica* (Anacardiaceæ), an American shrub. Useful as an astringent in atonic diarrhœa, and to check hæmorrhage. It is also a valuable remedy in the nocturnal enuresis of children, acting almost as a specific, and producing no harmful effects.—*L.*, Nov. 22, '90; *M. R.*, Dec. '90 & Jan. '91.

**Extractum Rhus Aromaticæ Liquidum.**—Not miscible with water. *Dose*.—5 to 30 minims; for children up to 2 years, 5 minims; 2 to 6 years, 7 to 10 minims.

The fruit of *Rhus coriaria*, a Persian plant known as *Sumâh*, is sold in the bazaars. It is used by some classes of natives as an astringent in diarrhœa, dysentery, etc., and has also found application in checking diuresis, and might be experimented with as a substitute for *R. aromatica*. For description, etc., see *Pg. Ind.*, i. 372.

## RHUS GLABRA, U. S. P.

**Sumach.**—The fruit of *Rhus glabra* (Anacardiaceæ) America. Tonic, astringent, and anti-septic. Used as a gargle

for inflammation of the throat, and as an astringent in dysentery, gonorrhœa, etc. Also used as a diuretic and refrigerant in febrile diseases, and diabetes.

**Extractum Rhois Glabræ Fluidum, U. S. P.**—Not miscible with water. *Dose*—1 to 2 drachms (3·5 to 7 cc.)

## RUBIDIUM.

The atomic weight of Rubidium salts, being higher than that of Potassium, or Sodium, would, according to Laufenauer's observations lead us to expect a more powerful ante-piletic action. This has been justified by actual clinical experiment.

**Rubidii Bromidum.**—White octahedral crystals, soluble, 1 in 1 of water. Employed in epilepsy. *Dose*—5 to 30 grains (0·32 to 2 gm.)

**Rubidium-ammonium bromidum.**—A white crystalline powder, readily soluble in water, action about equal to Bromide of Potassium. *Average dose*—9 grains (6 gm.) daily.

**Rubidii Iodidum.**—Resembling iodide of potassium in appearance, but is of less saltish taste. Does not derange the appetite or digestion.

In syphilitic affections, rubidium iodide is used in similar doses to potassium iodide, and with equal success, whilst it may be continued for months without producing any digestive disturbances, or other troublesome symptoms as iodism. In ophthalmic diseases rubidium iodide has also proved valuable as an eye-lotion, especially in chronic parenchymatous inflammation. *Dose*—5 to 20 grains (0·32 to 1·3 gm.)

## RUMEX, U. S. P.

**Yellow Dock**—The root of *Rumex crispus* (Polygonacæ) and other species. It contains chrysophanic acid.

Tonic alterative, and slightly laxative like rhubarb. It is given in scrofulous skin diseases, also in hepatic congestion and dyspepsia.

**Extractum Rumicis Fluidum, U. S. P.**—Not miscible with water. *Dose*— $\frac{1}{2}$  to 1 drachm (1·8 to 3·5 cc.)

**Tinctura Rumicis.**—1 in 10. *Dose*—1 to 10 minims (0·06 to 0·6 cc.) or more.

**Rumicin.**—The powdered extractive. *Dose*—1 to 4 grains (0·065 to 0·26 gm.)

## SACCHARINUM.

**Glusidum ; Gluside, B. P. ; Glusimide ; Benzoyl Sulphonic Imide,**  $C_6H_4.CO.SO_2.NH$ .—The sweet imide derivable from the toluene of coal-tar.

A light, white powder, with an intensely sweet taste. It is very slightly soluble in water, more so in boiling water, freely in solution of ammonia, or in solution of bicarbonate of sodium ; in the latter case with evolution of carbonic acid gas (see below). It forms sweet crystalline salts with alkaloids and metallic bases.

The intense sweetness of Saccharin, together with its harmlessness when taken internally, render it very useful for disguising the taste of nauseous drugs, as salicin, cascara sagrada, etc., and also as a flavouring agent in the food of diabetic patients. Saccharin possesses from 250 to 300 times the sweetening power of sugar.

Saccharin is quite harmless even in large quantities ; and does not interfere with the digestive processes even if taken for an extended period.—*L.*, Nov. 17, '88 ; *Ph. J.*, Dec. 1, '88.

*Dose*— $\frac{1}{2}$  to 2 grains (0·032 to 0·13 gm.) or more.

**Cocainæ Saccharis.**—See page 107.

**Elixir Saccharini, B. P. C.**—24 grains to 1 ounce with Bicarbonate of Sodium. *Dose*—5 to 20 minims (0·30 to 1·2 gm.) ; 10 minims are sufficient to flavour a 4-ounce mixture.

**Soluble Saccharin.**  $C_6H_4.CO.SO_2.NNa$ .—Saccharin rendered soluble by treatment with Bicarbonate of Sodium, 100 parts being equal to nearly 90 parts of Saccharin. It is freely soluble in water. *Dose*— $\frac{1}{2}$  to 2 grains (0·032 to 0·13 gm.) or more.

Saccharin is generally sold standardized to a sweetening power of 300 and 500 times that of sugar.

**Tabellæ Saccharini, Saccharin Tablets.**— $\frac{1}{2}$  grain each in combination with Bicarbonate of Sodium. One or two are sufficient to flavour a cup of tea, or disguise the bitterness of quinine, etc.

Saccharin should not become black on addition of strong sulphuric acid, nor should its solution in caustic potash reduce Fehling's solution. These tests distinguish it from cane and grape sugars respectively.



**Dulcin.**—Sacrol. Paraphenetol carbamide. About 200 times sweeter than sugar; soluble 1 in 800 of water, 1 in 25 of spirit.

**Lævulose.** Diabetin. Inverted sugar.—Freely soluble in water, reduces Fehling's solution. Stronger in sweetening power than cane-sugar.

**Saxin.**—A sweetening agent said to be harmless, and non-fermentative. It has also an antiseptic action.

**Sugarine.**—Methyl-benzyl-sulphimid. Prepared by heating tolyl-cyan-sulphamid with potash solution, adding sulphuric acid when cool, and the resulting precipitate recrystallized from dimethyl-benzene. Said to be 500 times sweeter than sugar.

**SAFROL.**—See page 201.

**SALACTOL.**—See page 14.

### SALICINUM, B. P.

**Salicin.**  $C_{11}H_{14}O_6$ .—A glucoside obtained from the bark of various species of willow, chiefly *Salix alba* (Salicaceæ), also from various species of *Populus*. Colourless shining crystals, odourless, and having a very bitter taste, soluble 1 in 28 of water, 1 in 60 of spirit, insoluble in ether. It is coloured red by sulphuric acid, and emits the odour of meadow-sweet (Salicylol) when ignited. Salicin may be prepared artificially from helicin or populin.

It acts as an anti-pyretic and tonic, and is given in ague and acute rheumatism, especially the latter. It splits up under the influence of the ferments in the body into saligenin and glucose, the former becoming oxidised into salicylic acid.

*Dose*—5 to 20 grains (0.32 to 1.3 gm.)

### SALIFEBRIN.

**Salicylanilide.**—A compound of antifebrin and salicylic acid in molecular proportions. A white powder with an acid reaction, insoluble in water, soluble in alcohol. It possesses the same therapeutic action as salipyrin (see page 229).

### SALIGENIN.

(Ortho-oxybenzylalcohol); salicylous alcohol. A decomposition product of salicin, now prepared synthetically like salicin



and salicylic acid; it possesses antiseptic as well as antirheumatic properties, and is said to be free from the inconveniences of salicylic acid. *Dose*— $7\frac{1}{2}$  to 15 grains.

## SALIX NIGRA.

**Black or Pussy Willow.**—The bark of this tree, indigenous to North America, has been used as a sexual and general sedative. It has been recommended for ovarian hyperæsthesia, spermatorrhœa, etc., having all the advantages of Bromide of Potassium without acting as a depressant.—*L.*, Sept. 24, '87.

**Extractum Salicis Nigræ Liquidum.**—Not miscible with water. *Dose*— $\frac{1}{2}$  to 1 drachm.

## SALOLUM, B. P.

**Salol.** Phenyl Salicylate.  $C_7H_5O_3C_6H_5$ .—A Phenyl Ether of Salicylic Acid. It occurs as a white powder, almost insoluble in water. Soluble 1 in 10 of alcohol and in fixed oils, tasteless and of aromatic odour, somewhat resembling wintergreen. It is a powerful anti-pyretic and anti-septic, and is recommended as a substitute for Salicylate of Sodium, where that salt cannot be tolerated. It remains intact in the stomach, but splits up in the duodenum into its components, Phenol and Salicylic Acid. No vomiting or toxic symptoms follow its use; but after a few days the urine becomes of a greenish black colour. In acute rheumatism it has the effect, when given in doses of 15 grains, 6 or 8 times a day, of bringing down the temperature, and relieving the pain in the joints in from 24 to 48 hours. The insoluble nature of Salol makes it peculiarly applicable as a dusting powder for excoriated surfaces and foetid wounds, and has led to its use as a substitute for Iodoform. Suspended with tragacanth or starch mucilage, it forms a good mouth wash.

*Dose*—5 to 15 grains (0.32 to 1 gm.)

Used in sciatica, 8 grains in the evening, and 16 grains at midnight, caused the patient to fall asleep and remain free from pain.—*C. & D.*, Mar. '87.

Given internally in gonorrhœa in 10 to 30 grain doses, 3 times daily; 15 per cent. of the cases were cured, and 50 per cent. improved.—*L.*, Mar. 22, '90.

Being very soluble in oils, it may be administered for gonorrhœa dissolved in copaiba or sandal oil, to the extent of one-third of the dose.—*Ph. J.*, Mar. 29, '90.

In 22 cases of pharyngeal inflammation, 15 to 20 grain doses acted very satisfactorily.—*T. G.*, Feb. 15, '90.

When the administration of Salol caused no appearance of salicylic acid in the urine, occlusion of the pylorus has been successfully diagnosed.—*B. M. J.*, June 14, '90.

Salol has been found to destroy the cholera bacillus.—*Ph. J.*, Mar. 2, '89.

Has been used in several cholera hospitals in Bombay, Madras, Hyderabad, etc., with great success; the phenol liberated in the intestine acting as an anti-septic.—*I. M. G.*, May '90; *T. G.*, Oct. '90; *M. R.*, Nov. '90; *Ed. M. J.*, Dec. '90.

**Salol Collodion.**—An application containing Salol 4, Ether 4, Collodion 30, has been recommended for acute rheumatism.—*Ph. Rec.*, May 5, '90.

**Salol Camphor.**—A viscid liquid formed by mixing, Salol 3, Camphor 2. It is used similarly to Naphthol Camphor as an antiseptic. It is insoluble in water.

**Salol Gauze.**—10 per cent.

**Salol Coating for Pills.**—To act in intestines only. Salol 2, Shellac 3, Absolute alcohol and Ether, of each 3. This is insoluble in the acid gastric juice, but soluble in the alkaline fluids of the intestine.—*M.*

**Unguentum Salol c. Cocaina.**—Salol 2, Cocaine Hyd. 1, Ceratum Petrolei 16. For burns.—*M.*

**Cresalol.**—See page 12.

**SALIPYRIN.**—See page 229.

## SALITANNOL.

$C_{14}H_{10}O_7$ .—A condensation product of salicylic and gallic acids. A white amorphous powder, insoluble in water, ether, chloroform, or benzine, and but sparingly soluble in alcohol. It is soluble in alkaline solutions. Said to combine the antiseptic properties of salicylic, gallic, or tannic acid. Used as a dusting powder.—*A. M. S. B.*, April 25, '98.

**SALOCOLL.**—See Phenocoll Salicylas, page 231.

### SALOPHEN.

White crystalline scales, odourless and tasteless, soluble in ether and alkalies, almost insoluble in water. Anti-pyretic and neuralgic. Introduced to take the place of Salol. *Dose*—10 to 30 grains (0.65 to 2 gm.)

### SAMADERA INDICA.

The bark and wood of this Indian tree (*Simarubæ*) contain a bitter principle *Samaderin*, also called *Quassin* by Flückiger. The wood has properties resembling those of *Quassia*.—*Dey*.

### SANOFORM.

Methyl-di-iodo-salicylate.—Obtained by the action of Iodine on Gaultheria oil. White needles, tasteless and odourless, decomposing on keeping or exposure to light. Soluble in alcohol, ether, and vaseline. Used as a substitute for Iodoform. It possesses marked siccative properties. It is non-poisonous, and can be used as a powder, a 10 per cent. ointment, or as a 1 per cent. solution in Collodion.

### SANGUINARIN.

A resinoid in powder, of a coffee colour, obtained from *Sanguinaria canadensis*. Blood root. Stimulant tonic in small doses. *Dose*— $\frac{1}{4}$  to 1 grain (0.016 to 0.065 gm.)

### SANGUINOL.

Another of the blood preparations, said to be a defibrinated, boiled-down blood with hemoglobin, consisting of 46 parts natural blood salts, 10 parts oxyhemoglobin, and 44 parts peptonized muscle albumen.

### SANTALI OLEUM, B. P.

**Oil of Sandalwood; Yellow Santal Oil.**—The oil distilled from the wood of *Santalum album* (*Santalacæ*), a tree common on the Western Ghats of India. It is a pale yellow oil, with a peculiar persistent odour, freely soluble in rectified spirit. *Sp. gr.* 0.970 to 0.990, the oil distilled in India showing higher

Sp. gr. than that distilled in Europe. The wood contains 2 to 2.5 per cent. of oil, also tannic acid and a dark resin. The oil consists almost entirely of *Santalol* (80 to 90 per cent.) and a small quantity of a corresponding aldehyde.

Santal Oil is largely used in the treatment of gonorrhœa and gleet, being administered either as capsules or mixture.

*Dose*—5 to 30 minims (0.3 to 1.8 cc.)

**Capsules of Santal Oil.**—5 and 10 minims (0.30 to 0.6 cc.) each.

**Mistura Olei Santali.**—May be made of any desired strength up to 1 in 8, emulsified with Tragacanth or Acacia.

*Dose*—According to strength. A **Fluid Extract** of the wood is used in America, in doses of  $\frac{1}{2}$  to 2 drachms, in place of the oil

**Gonorol.**—A name applied to a highly purified sandal oil. A colourless liquid with a faint smell, freely soluble in alcohol.

**Sandalwood** is largely used in India as a domestic remedy among the natives, also as a perfume for burning. It is known as *Safed Chandan*, to distinguish it from *Lal Chandan*, or Red Sandalwood, the product of *Pterocarpus Santalinus* (Red Sander's Wood). This wood contains a red crystalline resinoid colouring matter, insoluble in water, soluble in alcohol, called *Santalol*. *Pterocarpin*, a crystalline body, is also found. It is the colouring ingredient in Tinctura Lavandulæ Co.

## SANTONINUM, B. P.

**Santonin.**  $C_{15}H_{14}O_2$ .—A crystalline neutral principle obtained from *Santonica* (wormseed), the flower heads of *Artemisia maritima*, var. *Steehmannia*, from Russia. Colourless crystals, sparingly soluble in water, more so in rectified spirit, freely in chloroform. Taste feebly bitter. It turns yellow by exposure to light.

It is a valuable anthelmintic, being suitable for both round and thread-worms, but is inoperative against tape-worm. It acts by causing the worms to leave their abode and wander into the large intestine, from which they may be removed by a purgative. It is best given in castor oil for children. Has also been recommended as an emmenagogue. It often effects the vision,

especially in large doses, causing objects to appear green or yellow ; it also colours the urine orange.

*Dose*—2 to 5 grains (0·13 to 0·32 gm.). One dose should be given every other night to 3 doses, followed in the morning by a brisk cathartic.

**Trochisci Santonini, B. P.**—1 grain in each.

**Trochisci Santonini et Calomelanos**—Santonin and Calomel Lozenges.—The above combined with Calomel.

**Sodii Santonas.** Sodii Santoninas, U.S.P.—A combination of Santonin with Caustic Soda. In colourless crystals, soluble in water, having a saline and slightly bitter taste. It is given in place of Santonin. *Dose*—5 to 10 grains (0·32 to 0·65 gm.)

**Santoninoxim.**—A compound obtained by the action of hydroxylamine upon Santonin in an alkaline solution. It is said to be less absorbable and non-toxic, but equally active, if administered in double or triple doses. Recommended in place of Santonin as being free from injurious effects.—*Ph. J.*, June 29, '89 ; *C. & D.*, Sept. 27, '90.

Although the Santonin used in India is all imported from Europe, the plant is brought from Persia and Afghanistan and sold in the bazaars, where it is known as *Kirmani* or *Kirmala*.—*Pg. Ind.*

## SAPO VIRIDIS, U. S. P.

**Green Soap ; German Soft Soap ; Sapo Kalinus.**—A potash soap, similar to Sapo Mollis, *B. P.*, but usually made with Linseed Oil. It is of a brownish-green colour, and should be free from alkali. It is used in some forms of skin diseases.

**Tinctura Saponis Viridis, U. S. P.**—Green Soap 65, oil of Lavender 2, Alcohol to 100.

**Mollinum, Molin.**—A soft soap, containing about 17 per cent. excess of fatty matter. It is of a white colour, inodorous, of unctuous consistence, and is recommended as a basis for ointments owing to the readiness with which it may be washed off with water. Not being a grease, it imparts no stain to linen. It mixes well with most of the usual ingredients of ointments.

It has not proved satisfactory as an ointment base.—*Ph. J.*, Dec. 21, '89.

## SCOPOLA.

The rhizome of *Scopola carniolica* (*S. atropoides*), Solanaceæ, a plant growing in Central Europe. It contains *Hyoscyamine*, along with vegetable cholesterin and a fluorescent substance *Scopoletin*, and is similar to *Belladonna* both in composition and properties. The rhizome of *S. Japonica* also resembles *Belladonna*, the so-called Scopoline obtained from it being a mixture of atropine, hyoscyine, and hyoscyamine.

Scopola is recommended as being equally efficacious with *Belladonna*, without causing dryness of the throat. The following preparations are recommended:—

**Extractum Scopolæ Alcoholicum.**—Containing 2 per cent. of alkaloid. *Dose*— $\frac{1}{8}$  to  $\frac{1}{2}$  grain (0.018 to 0.032 gm.)

**Extractum Scopolæ Liquidum.**—Standardised to contain 0.25 per cent. of alkaloid. *Dose*—1 to 5 minims (0.06 to 0.30 cc.)

**Emplastrum Scopolæ.**—1 (Alcoholic Extract), in 5.

**Linimentum Scopolæ.**—Similar to Liniment of *Belladonna*, containing 4 of Liquid Extract in 5.

**Tinctura Scopolæ.**—4 (Liquid Extract) in 25. *Dose*—5 to 30 minims.

**Unguentum Scopolæ.**—1 (Alcoholic Extract) in 10.

The above preparations are intended to take the place of similar preparations of *Belladonna*.

For full details as to chemistry, pharmacy, therapeutics, natural history, and histology of Scopola, see *Ph. J.*, Dec. 14, '89.

## SENNA.

The leaflets of two species of *Cassia* (Leguminosæ) are recognised by the B. P. The Senna imported from Alexandria (Alexandrian Senna) is the product of *Cassia acutifolia*, while Indian or Tinnivelly Senna is obtained from *C. angustifolia*, cultivated in Southern India. *C. oborata*, or jungle senna, grows wild very abundantly in India, and is used as a substitute for the official Senna.

The active principle of Senna is a glucoside, **Cathartic Acid**, which, when isolated, occurs as a brown amorphous pow-



der, soluble in water, insoluble in spirit. It is sometimes given as a purgative, as it does not possess the nauseous and griping properties of the drug, and is easily administered. It is very unstable, and is readily oxidised and rendered inert by heat.  
*Dose*—4 to 8 grains.

*Preparations—*

Confectio Sennæ (Electuarium

Lenitivum), B. P. ... .. *Dose*—1 to 2 drachms (3·5 to 7 cc.). 1 in 11.

Infusum Sennæ, B. P. ... .. "  $\frac{1}{2}$  to 1 ounce (0·15 to 0·30 cc.). 1 in 10.

Liquor Sennæ Concentratus, B. P. "  $\frac{1}{2}$  to 1 drachm (1·8 to 3·5 cc.)

Mistura Sennæ Composita

(Black Draught), B. P. ... .. 1 to 2 ounces (30 to 60 cc.)

Syrupus Sennæ, B. P. ... .. "  $\frac{1}{2}$  to 2 drachms (1·8 to 0·7 cc.). 1 in  $2\frac{3}{10}$

*Process entirely altered from that of B. P. 1885.*

Tinctura Sennæ Co., B. P. ... .. *Dose*— $\frac{1}{4}$  to 1 drachm (1·8 to 3·5 cc.). 1 in 5.

**Elixir Sennæ, B. P. C.**—*Dose*—1 to 3 drachms (3·5 to 10·5 cc.). In this the cathartic acid is preserved in its full activity, the preparation being only slightly heated.

The nauseating and griping properties of Senna are due to a resin and an oil which have no purgative properties. The following preparations have been used to obviate these unpleasant qualities.

**Extractum Sennæ Liquidum.**—Prepared by maceration and cold pressure, and flavoured with aromatics. The cathartic acid is unoxidised, and the resin left behind in the marc.  
*Dose*—2 drachms (7 cc.)

**Extractum Sennæ Fluidum Deodoratum.**—The Senna is first exhausted with alcohol to remove the resin and oil, the marc is then dried and exhausted with water to dissolve the cathartic acid. *Dose*—1 to 2 drachms (3·5 to 7 cc.)

**Sennæ Legumina,** Senna Pods.—The fruit of the Senna plant contains cathartic acid, but no resin or oil, consequently presents no difficulties in the way of making a suitable preparation. It is also more readily exhausted with cold water than the leaves, which have a more irritable epidermis. It is employed as

**Extractum Sennæ Leguminum Liquidum.**—Prepared with cold water. It is considered specially suitable for children. *Dose*—For children,  $\frac{1}{2}$  to 1 drachm (1·8 to 3·5 cc.), in



water at bed-time; adults, 1 to 2 drachms (3·5 to 7 cc.)—*L.*, July 27, '89; *Ph. J.*, Aug. 31, Oct. 12, and Nov. 16, '89.

### SESAMUM INDICUM.

**Sesame or Gingeli.**—The minute flat seeds from this herb yield 30 to 40 per cent. of a clear, non-drying oil, of a pale straw to amber colour. It consists chiefly of oleine, the solid portion being palmitic, stearic, and myristic acids.

The seeds are emollient, demulcent, and laxative. The oil may be used in the same manner as olive oil.

### SIEGESBECKIA.

The Indian plant, *Siegesbeckia orientalis* (Compositæ), the properties of which do not appear to be known to the natives, has recently been introduced into European practice. It contains a bitter principle, *Darutylene*, which seems to be a derivative of allylic acid.

*Siegesbeckia* has been recommended in conjunction with Iodide of Potassium as a remedy for syphilitic and scrofulous affections, while the juice of the fresh herb is used as a dressing for wounds, over which it dries, leaving a varnish-like coating.

**A Tincture** has been used with success as an application in ringworm and other skin diseases, having the advantage of not being greasy, and at the same time affording relief to the dryness and tension of the skin. Equal parts of the Tincture and Glycerine are to be rubbed over the affected parts night and morning.—*B. M. J.*, June 25, '87.

### SODIUM.

The Sodium salts possess a less depressing action on the heart than the Potassium salts, and have a much lower diffusion-power than the latter. They are all easily soluble in water. The following are those more recently introduced into therapeutics:—

**Sodii Arsenas, B. P.**  $\text{Na}_2\text{AsO}_4$ , with 12 or 7 molecules of water of crystallisation.—This salt is very liable to effloresce on exposure to the air, consequently it is of uncertain arsenical strength. It is used in skin affections and nervous diseases, in a similar manner to *Liquor Arsenicalis*, and is the active ingredient

in the **Arsenical Cigarettes** used for asthma. It is also given with Lithia Water for diabetes (see page 196). *Dose*— $\frac{1}{10}$  to  $\frac{1}{15}$  grain (0.0016 to 0.0065 gm.)

**Liquor Sodii Arsenatis, B. P.**—1 per cent., made with *anhydrous* Arsenate. *Dose*—2 to 8 minims (0.12 to 0.48 cc.) (contains about half as much Arsenium as Liquor Arsenicalis). **Pearson's Solution** contains 1 of *crystallised* Arsenate of Sodium in 600.

*Antidotes*.—Moist Peroxide of Iron, or Dialysed Iron (see page 142); Emetics, stomach pump, mucilaginous drinks; Ammonia; artificial respiration and cold affusion.

**Sodii Benzoas, B. P.**  $\text{NaC}_7\text{H}_5\text{O}_2$ .—A white crystalline powder, used as an antipyretic and antiseptic, also in rheumatism and gout. A 5 per cent. solution has been used as a spray for phthisis. *Dose*—5 to 30 grains (0.32 to 0.2 gm.) has been given up to 4 drachms daily.

**Sodii Bromidum, B. P.**  $\text{NaBr}$ .—A granular white powder, slightly deliquescent. Its action is similar to that of Bromide of Potassium, but less depressant. It is used for epilepsy and seasickness. *Dose*—5 to 30 grains (0.32 to 2 gm.)

**Elixir Sodii Bromidi.**—10 grains in 1 drachm. *Dose*—1 to 2 drachms (3.5 to 7 cc.)

**Sodium Caffeine Sulphonate.**—Caffeinesulfosaurennatrinus. Called "Nasrol," which is the trade name, or "*symphoral* N." Claims to be a useful diuretic in cardiac and renal affections, more especially in fatty heart. Lithium and Strontium compounds are also prepared, called respectively *symphoral* L. and *symphoral* S. *Dose*—of each 10 to 15 grains (0.65 to 1 gm.)

**Sodii Chloras, U. S. P.**  $\text{NaClO}_3$ .—In hard white cubical crystals, or crystalline powder. Used in place of Chlorate of Potassium for ulceration of the gums, etc. *Dose*—10 to 30 grains (0.65 to 0.2 gm.)

**Gargarisma Chlorig.** Chlorine Gargle—Contains free chlorine, and is prepared from Chlorate of Sodium and Hydrochloric Acid.

**Trochisci Sodii Chloratis.**—3 grains in each. More palatable than Chlorate of Potassium Lozenges.

**Pulvis Salinus Anticholeraicus** (Stevens).—Bicarbonate of Sodium 30 grains, Chloride of Sodium 20 grains, Chlorate of Potassium 7 grains, for one dose. Given frequently in water to arrest the pain and purging of cholera.

**Sodii Citras.**—Small crystals, given in place of Citrate of Potassium as a cooling saline. *Dose*—10 to 60 grains (0.65 to 0.4 gm.)

**Sodii Cresotas.**—See page 275.

**Sodii Ethylas.**—A deliquescent salt, used as a caustic. It is prepared from the following:—

**Liquor Sodii Ethylatis, B. P.**—Prepared by dissolving metallic Sodium in Ethylic Alcohol. A valuable caustic for nævi and other vascular growths, causing little or no pain. No water should be allowed to touch the part under treatment. It has also been used very successfully in lupus.

**Sodii Fluordium Purum.**—A dry white crystalline powder, soluble in water. An antiseptic, used freely diluted, for disinfecting purposes, surgical dressings and skin diseases.

**Sodii Fluosilicas,** Fluo-silicate or Silicofluoride of Sodium. —An odourless, non-irritating antiseptic and disinfectant. A 2 per cent. mixture with water may be used as an antiseptic dressing, or as an injection in gonorrhœa or a gargle in diphtheria.—*B. M. J.*, May 19, '88, and Feb. 15, '90; *Ph. J.*, Mar. 1, '90.

The preparation known as **Salufer** consists of a solution of this salt. **Salufer Cubes**, each equal to one quart of solution, are also sold.

**Sodii Hippuras.**—A white amorphous powder, readily soluble in water. Recommended as a solvent for urates in gout, gravel, and calculus. *Dose*—5 to 30 grains (0.32 to 0.2 gm.)

**Sodium Hypobromite Solution.**—Used to estimate the amount of urea in urine, see page 312.

**Sodii Hypophosphis.**—See page 235.

**Sodii Hyposulphis, U. S. P.,** Hyposulphite or Thio-sulphate of Sodium.  $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$ .—Colourless crystals easily

distinguished from other Sodium salts by adding hydrochloric acid to its solution, when sulphur is precipitated and sulphurous acid gas given off. Used in syphilitic and rheumatic affections, and sarcina ventriculi; also as a lotion (1 in 10) for parasitic skin diseases. If sulphuric acid be added to the lotion, the latter will evolve sulphurous acid gas. *Dose*—10 to 60 grains (0·65 to 4 gm.)

**Sodii Sulphis, B. P.**  $\text{Na}_2\text{SO}_3 \cdot 7\text{H}_2\text{O}$ .—Colourless efflorescent crystals, the solution of which gives off sulphurous acid gas on addition of acid, but does not deposit sulphur. It is used similarly to the last. *Dose*—10 to 60 grains (0·65 to 4 gm.)

**Sodii Iodidum, B. P.**  $\text{NaI}$ .—A white deliquescent powder. It is used for the same purposes as Iodide of Potassium, than which it is said to be more assimilable. *Dose*—5 to 20 grains (0·32 to 1·3 gm.)

**Sodii Narceine Salicylate.**—See Antispasmin, page 47.

**Sodium Nitris, B. P.**  $\text{NaNO}_2$ .—A white or yellowish white deliquescent crystalline salt. In epilepsy and angina pectoris it acts similarly to Nitrite of Amyl or Nitroglycerine, also in bronchitis and asthma, especially combined with Hyoscyamus.—*L.*, '90, i. 240; *Ph. J.*, July 3, '86. *Dose*—1 to 2 grains (0·065 to 0·13 gm.)

**Sodii Paracresotas, Paracresotate or Cresotinate of Sodium.**—A crystalline powder, soluble 1 in 24 of water, has been used as an antipyretic, being safe and reliable. Its action is very similar to that of Salicylate of Sodium, and it has found special application for children.—*Ph. J.*, Feb. 1, '90. *Dose*—2 to 3 grains (0·13 to 0·2 gm.) in 1 ounce mixture, a teaspoonful every 2 hours for children; for adults 2 to 20 grains (0·13 to 1·3 gm.)

**Paracresotic Acid** is said to be present as an impurity in artificial salicylic Acid, and is stated to have toxic effects. This, however, has been disproved, as the Sodium salt has been largely experimented with, and no toxic symptoms have been shown. The impurity in salicylic Acid, therefore, has yet to be determined. *B. M. J.*, Nov. 29 and Dec. 1, '90. See also **Acidum Salicylicum** (page 17), and **Sodii Salicylas** (below).

**Sodii Permanganas.**—See page 249.

**Sodii Peroxidum.**—See page 168.

**Sodii Phosphas, B. P.**  $\text{Na}_2\text{HPO}_4, 2\text{H}_2\text{O}$ .—Known also as "Tasteless Aperient Salt." In colourless crystals, efflorescent. Acts as a mild purgative. *Dose*— $\frac{1}{4}$  to  $\frac{1}{2}$  ounce (7 to 15 gm.) in gruel or broth.

**Sodii Phosphas Effervescens, B. P.**—A granular preparation, containing 50 per cent. of phosphate of Sodium. *Dose*— $\frac{1}{4}$  to  $\frac{1}{2}$  ounce (7 to 15 gm.)

**Sodii Phosphas Exsiccatus.**—*Dose*—10 grains to 4 drachms (0.65 to 16 gm.)

**Sodii Salicylas, B. P.**—Colourless crystalline scales, that made from the natural acid (see page 18), being in silky crystals, and usually slightly yellow. It is most soluble and less irritating than Salicylic Acid, and is given in rheumatism, sciatica, and some forms of diabetes.

*Dose*—10 to 30 grains (0.65 to 2 gm.)

As a snuff, Salicylate of Sodium 80 grains, Cocaine Hydrochloride 22 grains, and Boric Acid 1 ounce, has been said to cure nasal catarrh in one application.—*Ph. J.*, Nov. 30, '89.

One drachm in 3 pints of water as an enema has proved very successful in dysentery in India.—*M. R.*, Nov. '90.

The artificial salt is more suitable for combining with Spiritus Ætheris Nitrosi or Spiritus Ammoniae Aromaticus than the natural salt, as it produces less coloration.—*Ph. J.*, Mar. 22, '90.

Purification of artificial Salicylate of Sodium.—*J. S. C. I.*, June 30, '90.

Chemical notes on the same.—*Ph. J.*, Oct. 27, '88, and Aug. 31, '89.

An investigation of the constituents of artificial Salicylic Acid of commerce, and its therapeutics.—*Ph. J.*, Nov. 22, '90; *C. S. D.*, Nov. 15, '90; *H.*, Nov. '90.

**Granular Effervescent. Salicylate of Sodium.**—6 grains in 1 drachm. *Dose*—1 drachm (4 gm.)

**Sodii Salicylsulphonas.**—A white crystalline, odourless salt, acid to the taste. It is an antiseptic, ranking below Salicylic Acid, but above Salicylate of Sodium in this respect.—*Ph. J.*, Nov. 30, '89.

**Sodii Dithiosalicylas** (Dithion).—A greyish-white hygroscopic powder, soluble in its own weight of water. It is a

Sodium Salt of Dithiosalicylic Acid (Salicylic Acid combined with Sulphur). Superior to Salicylate of Soda in the treatment of articular rheumatism, having the advantage of stronger action and consequently smaller doses, tolerance by the stomach, and absence of unpleasant after-effects. A 20 per cent. solution will kill anthrax bacilli in 45 minutes.—*K.*, July '90; *Ph. J.* June 29, '89.

*Dose*—3 grains (0.2 gm.) morning and evening.

**Sodii Santonas.**—See page 269.

**Sodii Silicas.**—A solution of this, known as "Water Glass" or "Soluble Glass," has been used as an antiseptic for injections in leucorrhæa, gonorrhæa, ozæna, cystitis, etc., also to impregnate bandages in place of starch. It is a viscid, colourless solution.

**Potassii Silicas.**—Goes by the same names as the last, and is used for the same purposes. It is less viscid, and is preferred for bandages, and also as a paint for erysipelas, diluted with from 4 to 11 parts of water. Care must be taken that it is neutral.

**Sodii Sulphas, B.P.,** Glauber's Salt.—Colourless transparent crystals. Used as a cooling aperient, for which purpose the dried salt is preferable. *Dose*—Ordinary salt  $\frac{1}{4}$  to 1 ounce (15 to 30 gm.) dried salt,  $\frac{1}{2}$  to 2 drachms (2 to 8 gm.)

**Sodii Sulphas Effervescens, B.P.**—A granular preparation containing 50 per cent. Sulphate of Sodium. *Dose*— $\frac{1}{4}$  to  $\frac{1}{2}$  ounce (7 to 15 gm.)

**Magnesii Sulphas Effervescens, B. P.**—Similar to the last, but containing Sulphate of Magnesium (Epsom Salts). 50 per cent. A pleasant purgative. *Dose*— $\frac{1}{4}$  to 1 ounce (15 to 30 gm.)

**Pulvis Sodæ Tartarata Effervescens.** Seidlitz Powder.—Contains

Tartarated Soda	...	...	120 grains
Bicarbonate of Sodium.....		...	40 grains
wrapped in blue paper.			
Tartaric Acid	...	...	38 grains
wrapped in white paper.			

In hot climates it has been found better to mix the above powders in quantity, and preserve in a stoppered bottle, using



each time the equivalent of the above. See also *Ph. J.*, Dec. 21, '89.

**Sodii Sulphocarbolas, B. P.**—In white crystals, soluble in water. Used in the dyspepsia of phthisis, flatulence, diphtheria, cholera, etc. Has also been recommended for small-pox. *Dose*—10 to 15 grains (0·65 to 1 gm.)

**Sodii Sulpho-ichthyolas.**—See page 173.

**Sodium Sulpholeate.**—Prepared by neutralising with soda the compound produced by the action of Sulphuric Acid on Castor oil or any other fixed oil or fat. Resembles vaseline in colour and consistency.

Recommended as an ointment base in the treatment of skin diseases, miscible with water, and is rapidly absorbed by the skin. Being acid it is somewhat irritating to a delicate skin.

**Sodii Taurocholas.**—A whitish amorphous powder prepared from ox bile or pig's bile. Has been recommended for gouty obesity and dyspepsia. Should be administered in the form of keratin-coated pills to prevent solution until it reaches the intestines. *Dose*—2 to 6 grains (0·13 to 0·4 gm.)

**Sodii Telluras.**—A powerful antisudorific, given in physical sweating. *Dose*— $\frac{1}{3}$  to  $\frac{2}{3}$  grain (0·02 to 0·04 gm.) in pill, once daily.

**Sodii Sulpho-vinas; Sulphovinate, Sulphethylate, or Ethylsulphate of Sodium.**—In efflorescent colourless crystals. Has been recommended as a tasteless aperient. *Dose*— $\frac{1}{4}$  to 1 ounce (7 to 30 gm.)

## SOLPHINOL.

A new antiseptic. Principally a mixture of Borax, Boracic acid and Sulphurous alkalis. A white crystalline powder, soluble in ten parts of water and twenty parts of Glycerine.

Used as a disinfectant in the form of a 2½ to 10 per cent. aqueous solution. Odourless, and does not act on surgical instruments.

**SOLVINE.**—See page 217.

**SOZAL.**—See page 34.



## SOZOIODOL.

**Di-iodo-paraphenolsulphonic Acid.**  $C_6H_2(HSO_3)I_2OH$ .—A combination of Iodine (54 per cent.), Carbolic Acid (20 per cent.), and Sulphur (7 per cent.) It has powerful antiseptic properties, and is recommended as an odourless substitute for Iodoform. It is used in syphilitic, tuberculous, and scrofulous ulcerations, etc. As Sozoiodol itself is not soluble the following Salts are recommended :—

**Sodium-Sozoiodol.**— $C_6H_2(NaSO_3)I_2OH$ .—Colourless crystals, soluble about 1 in 12 of water or glycerine at ordinary temperatures.

**Potassium-Sozoiodol.**—Only slightly soluble in water or glycerine (about 1 in 50). Its effects are identical with those of the Sodium salt, but its insolubility makes it preferable as a dusting powder.

**Lithium-Sozoiodol**, in glancing white plates, is also manufactured.

**Zinc-Sozoiodol** is applied mixed with 1 part to 5 or 10 parts of sugar of milk. It is freely soluble in water. Injections of a solution (1 in 50) are recommended for diseases of the generative organs, as gonorrhœa.

**Mercury-Sozoiodol.**—An orange-red amorphous powder, insoluble in water. It should be applied in dilutions of only 1 in 10 or 1 in 20.

**Sozoiodol Cotton and Gauze** contain 5 and 10 per cent.

## SPARTEINÆ SULPHAS.

**Sulphate of Sparteine.**—The sulphate of an alkaloid obtained from the tops of the broom, *Cytisus scoparius* (Leguminosæ), a British plant. In colourless crystals, freely soluble in water. *Dose*— $\frac{1}{4}$  to 1 grain (0.016 to 0.065 gm.)

**Sparteine** ( $C_{15}H_{25}N_2$ ) is a colourless liquid alkaloid, heavier than, and insoluble in water. It is not used medicinally.

Sulphate of Sparteine acts as a cardiac tonic, reviving the heart-beats and pulse, equal to *Digitalis* or *Convallaria*, its effects being more lasting.

**Hypodermic Tablets** contain  $\frac{1}{2}$  grain (0.032 gm.) each.

**Oxysparteina.**—Oxysparteine, an oxydation product of Sparteine, soluble in the ordinary solvents. The *Hydrochloride* has the same dose. *Dose*— $\frac{1}{2}$  to  $1\frac{1}{2}$  grains (0.032 to 1 gm.) daily.

### SPERMINE HYDROCHLORIDE.

Spermine or Piperazine (see page 242) has been introduced as a synthetic representative of the base obtained from spermatie fluid, in which it exists in combination with phosphoric acid. It has made a sensation on account of Dr. Brown-Sequard's statement, that preparations of the spermatie fluid when injected have a peculiar power of stimulating the vital energy. Spermine Hydrochloride is supplied in sterilised physiological 2 per cent. solution, put up in hermetically sealed glass phials, and is quite ready for subcutaneous injection. Being a normal constituent of the organism, its application is entirely free from danger, and causes no local reaction when given as a subcutaneous injection. Each tube contains a charge for a Pravaz syringe of 1 c/cm. = Gr. XVI. capacity. The neck of the tube is broken off at the spot indicated by a line. After carefully cleaning the syringe with alcohol or boiling water, the spermine solution may be drawn into the syringe directly from the bulb. The best manner of administering the remedy is by intra-muscular injection into the gluteas, or by subcutaneous injection at one of the extremities of the body, or in the region of the shoulder blade. Instances of more than one injection daily are very rare: a minimum of from eight to twelve injections has generally been found most effective.

### SPHAGNUM.

**Bog-Moss**, various species of *Sphagnum*, dried and pressed into sheets. It is capable of absorbing eight times its weight of water, and when applied to wounds, discharges, etc., has the useful property of absorbing the liquids. It may be rendered antiseptic by treatment with corrosive sublimate.

### STAPHISAGRIÆ SEMINA, B.P.

**Stavesacre Seeds.**—The seeds of *Delphinium Staphisagria* (Ranunculacææ). They are a valuable parasiticide, and owe their property to a fixed oil.

**Unguentum Staphisagriæ, B. P.**—Seeds 1, Lard 2. Contains 10 per cent. of the oil. A useful preparation for pediculi.

**Oleum Staphisagriæ.**—Obtained by pressure from the seeds. May be used diluted with olive or almond oil and perfumed, for a similar purpose.

**Delphina, Delphia, Delphine.**—An amorphous yellowish alkaloid obtained from the seeds. Insoluble in water, soluble in dilute acids, alcohol, ether, and chloroform. Has been used in dropsy, asthma, neuralgia, etc. It is a heart poison. Locally it acts like Veratrine and may be used as an **Ointment**, 10 to 20 grains to 1 ounce. *Dose*— $\frac{1}{4}$  to  $\frac{1}{2}$  grain (0·016 to 0·032 gm.)

*Antidotes*—Emetics; Stimulants.

Several species of *Delphinium* grow in the Punjab, some of which are used by the natives as insecticides.

## STILLINGIA, U. S. P.

**Queen's Root.**—The root of *Stillingia sylvatica* (Euphorbiaceæ). It contains an alkaloid, *Stillingine*, and is emetic and cathartic in large doses, alterative in small doses. It is used in torpidity of the liver, and jaundice following intermittent fever, in ascites due to hepatic changes, in syphilitic affections, and in hæmorrhoids.

**Extractum Stillingiæ Fluidum, U. S. P.**—Miscible with water. *Dose*—15 to 60 minims (0·9 to 3·5 cc.)

**Liquor Stillingiæ Compositus;** McDade's Succus Alterans; *Mistura Smilacis Composita*; contains *Stillingia* in combination with *Smilax Sarsaparilla*, *Lappa minor* (Burdock), *Phytolacca decandra*, and *Xanthoxylum carolinianum*. This is said to possess wonderful antisyphilitic powers, the formula being the result of an investigation into the nature of a remedy used by native doctors on the cotton plantations of Alabama. *Dose*—One teaspoonful 3 times a day, increased to a tablespoonful.

**Stillingin.**—The dried extractive. A brown powder, used similarly to the root. *Dose*—1 to 3 grains (0·065 to 2 gm.) Must be distinguished from the alkaloid.

**Iodia**, a proprietary remedy, is stated to contain *Stillingia*, *Menispermum*, &c., with 5 grains Iodide of Potassium, and 2 grains Phosphate of Iron, in each fluid drachm. *Dose*—1 to 2 drachms (3·5 to 7 cc.) as an alterative.

### STRAMONII FOLIA, B. P.

**Stramonium Leaves.**—The dried leaves of *Datura Stramonium*. Their chief use is in asthma, for which they are smoked or burned and inhaled.

**Pulvis Stramonii Compositus.**—A powder containing Stramonium, Lobelia, Nitrate of Potassium, Anise, etc. A thimbleful burned on a plate, and the fumes inhaled, gives immediate relief in attacks of asthma. It is similar to 'Himrod's Cure' and other such preparations.

**Stramonii Semina, B. P.**, are used for making the official preparations.

The leaves and seeds of *Datura alba*, *Dhatura*, are official in the *P. I.* as **Daturæ Folia et Semina**, and are used for the same purposes as Stramonium. The plant is frequently used by the natives for criminal purposes. A **Tincture**, **Extract**, **Plaster**, and **Poultice** are official.

*Datura fatuosa*, another Indian species, and known as *Kala-Dhatura*, possesses similar properties.

**Daturina**, Daturine,  $\text{—C}_{17}\text{H}_{27}\text{NO}$ .—An alkaloid obtained from Stramonium. It occurs in light-feathery crystals, and is identical with Atropine. (See pages 57 and 170.) It is used for the same purposes as Atropine.

**Daturinæ Sulphas.**—In white crystals, soluble in water. *Dose*— $\frac{1}{120}$  to  $\frac{1}{60}$  grain (0·0005 to 0·01 gm.)

**Guttæ Daturinæ.**—2 grains to 1 ounce. For ophthalmic purposes.

### STRONTIUM.

The constant admixture of Barium in strontium salts has been proved to be the foundation of the belief held in the poisonous nature of strontium salts. When quite pure, they are free from toxic properties.

**Strontii Bromidium** occurs in long colourless needles, freely soluble in water. Used as a nervine in epilepsy and gastric affections. It arrests vomiting promptly, and does not produce any disagreeable by-effects. In this respect it is superior to potassium bromide, and is more efficient and reliable. *Dose*—5 to 30 grains (0·32 to 2 gm.). In epilepsy much larger daily doses may be given.

**Strontii Carbonas.** *Dose*—5 to 30 grains (0·32 to 2 gm.)

**Strontii Iodidum.**—Freely soluble in water. *Dose*—5 to 20 grains (0·32 to 1·3 gm.)

**Strontii Lactas.**—A white granular powder, soluble in water. Has been found reliable and harmless in various kidney diseases associated with albuminuria, and in obstinate painful dyspepsia. *Dose*—5 to 30 grains (0·32 to 2 gm.)

**Strontii Salicylas.**—A white crystalline powder, slightly soluble in water. Valuable in chronic gout and lithæmia.—*Dose* 5 to 20 grains (0·32 to 1·3 gm.)

## STROPHANTHUS, B. P.

**Strophanthus.**—The mature ripe seeds of *Strophanthus hispidus*, var. *Kombe* (Apocynaceæ), freed from the awns. The plant grows in Africa, where it is widely distributed in the tropical and sub-tropical regions, and is very widely used by the natives of these parts as an arrow poison.

It contains two crystalline principles, *Strophanthin* (see page 284) and *Incin*, also *Kombic Acid*, oil, etc., but no alkaloid. There are at least two varieties of *Strophanthus* which appear to vary in their action, and it is not yet definitely known how many species of the plant yield the drug; the description given in the *B. P.* should therefore be adhered to, in order to produce a uniform product.—*Ph. J.*, Sept. 20, '90; *H.*, July '90.

*Strophanthus* is a valuable cardiac tonic and diuretic. It exerts a more powerful action on the heart, and a less powerful action on the blood vessels, than *Digitalis*.

It is harmless to children, and a valuable cardiac and diuretic remedy in diseases of childhood.—*Pr.*, Oct. '90; *Ed.*, *M. J.*, Dec. '90.

It is specially useful in the cardiac failure of prolonged typhoid fever.—*L.*, '87, ii. 201.

**Tinctura Strophanthi, B. P.**—*Half the strength of B. P.* 1885 (*additions, 1890.*) *Dose*—5 to 15 minims (0.5 to 0.9 cc.)

**Extractum Strophanthi, B. P.**—*Dose*  $\frac{1}{4}$  to 1 grain (0.016 to 0.065 gm.)

**Tabellæ Strophanthi.**—2 minims of Tincture in each.

**Strophanthin.** Strophanthine.—The active principle. A colourless or yellowish crystalline powder, freely soluble in water and alcohol. In weak acid solution it splits up into *Strophanthidin* and glucose. Its action is allied to that of Digitalin. Administered hypodermically, it arrests the heart's action in systole. For the chemistry of Strophanthin, see *Ph. J.*, Oct. 26, '89. *Dose*— $\frac{1}{300}$  to  $\frac{1}{100}$  grain (0.0002 to 0.00065 gm.), hypodermically.

**Strophanthin Tannas.**—A yellowish white amorphous powder, containing 58 per cent. of Strophanthin, and soluble in alcohol. Therapeutic indications as for Strophanthin.

**Hypodermic Tablets** contain  $\frac{1}{300}$  grain each.

**Ouabain.**  $C_{20}H_{46}O_{12}$ .—A crystalline glucoside obtained from the wood of Ouabaio, *Curissa schimperi* (Apocynaceæ). It is probably homologous with Strophanthin, which it closely resembles in its action, being, however, more toxic. It has been found very efficacious in whooping-cough, cutting short the attack, reducing the violence of the cough, or hastening convalescence according to the stage of the disease. It is not cumulative.—*B. M. J.*, Apr. 26, '90. *Dose*— $\frac{1}{2000}$  to  $\frac{1}{200}$  grain given as a per mille solution.

## STRYCHNINA, B. P.

**Strychnine; Strychnia.**  $C_{21}H_{22}N_2O_2$ .—An alkaloid obtained from *Nux Vomica*, occurring in colourless crystals having an intensely bitter taste, very sparingly soluble in water, freely in chloroform. It is a very active poison, producing tetanic spasms. Its medicinal properties are antagonistic to Calabar bean, although it is not an antidote to poisoning by the latter. It is used as a nervine tonic, also in paralysis, lead-poisoning, epilepsy, and alcoholism.

*Dose*— $\frac{1}{80}$  to  $\frac{1}{100}$  grain (0.001 to 0.004 gm.)

**Antidotes.**—Emetics, stomach-pump; Bromide of Potassium; Chloral Hydrate; Nitrite of Amyl; Chloroform anaesthesia; Curare  $\frac{1}{4}$  grain; artificial respiration.



The Bromide of Potassium should be given in  $\frac{1}{2}$  ounce dose every 15 minutes; it may be combined with 30 grains of Chloral.—*Murrell*.

Strychnine has been given hypodermically with success in opium-poisoning.—*Pr.*, Dec. '88; *Ph. J.*, Dec. 29, '88.

**Hypodermic Tablets** contain  $\frac{1}{100}$ ,  $\frac{1}{100}$ , and  $\frac{1}{50}$  grain each.

Hypodermic injections of Strychnine have been found very efficacious in snake-bite. Doses of 10 to 20 minims of Liquor Strychninæ must be injected every 15 minutes, amounting in all to 1 grain or more of the drug until slight strychnine symptoms supervene. Strychnine is physiologically antagonistic to snake-poison.

**Ferri et Strychninæ Citras.**—Contains 1 per cent. of Strychnine. Greenish-golden scales, freely soluble in water. It is also sold in brown scales, resembling Citrate of Iron and Ammonia. *Dose*—3 to 6 grains (0.2 to 0.4 gm.)

**Ferri Quininæ et Strychninæ Citras.**—See page 254

Strychnine is also contained in Easton's Syrup, Compound Syrups of the Hypophosphites and Hydrobromates, some Phosphorus Pills, etc.

**Strychninæ Acetas.**—Colourless crystals, soluble 1 in 80 of water. *Dose*— $\frac{1}{80}$  to  $\frac{1}{10}$  grain (0.001 to 0.004 gm.)

**Strychninæ Arsenas.**—Crystals, soluble 1 in 15 of cold water. *Dose*— $\frac{1}{80}$  to  $\frac{1}{10}$  grain (0.001 to 0.004 gm.), 4 to 15 minims of a  $\frac{1}{2}$  per cent. solution in liquid vaseline have been given successfully in phthisis, injected hypodermically.—*L.*, '89, i. 596.

**Strychninæ Hydrobromidum.**—Crystals, soluble 1 in 60 of water. *Dose*— $\frac{1}{80}$  to  $\frac{1}{10}$  grain (0.001 to 0.004 gm.)

**Strychninæ Hydrochloridum.**—*Dose*— $\frac{1}{80}$  to  $\frac{1}{10}$  grain (0.001 to 0.004 gm.), soluble, 1 in 35 of water.

**Liquor Strychninæ Hydrochloridi, B. P.** *Dose*—2 to 8 minims (0.12 to 0.5 cc.)

**Strychninæ Nitras.**—Crystals, soluble, 1 in 70 of water. *Dose*— $\frac{1}{80}$  to  $\frac{1}{10}$  grain (0.001 to 0.004 gm.) Hypodermically, a 2 per cent. solution is given in doses of 1 to 4 minims for amaurosis, also for incontinence of urine.



**Strychninæ Phosphas.**—Soluble 1 in 31 of water. *Dose*— $\frac{1}{80}$  to  $\frac{1}{12}$  grain (0.001 to 0.004 gm.)

**Strychninæ Sulphas.**—Large crystals, slightly soluble in water. *Dose*— $\frac{1}{80}$  to  $\frac{1}{12}$  grain (0.001 to 0.004 gm.)

**Strychninæ Sulphas Acida.**—Soluble 1 in 36 of water. Best suited for hypodermic injection, a 1 in 40 solution being used in doses of 1 to 3 minims.—*M.* *Dose*— $\frac{1}{80}$  to  $\frac{1}{12}$  grain (0.001 to 0.004 gm.)

**Brucina;** Brucine.  $C_2H_{26}N_2O_4$ .—Another alkaloid, contained along with Strychnine in the seed of *Strychnos Nuxvomica* (Loganiaceæ), and other species, and alone in the bark of *S. ligustrina*. In crystals, very slightly soluble in water, freely soluble in alcohol, chloroform, and essential oils, insoluble in ether and fatty oils. It may be distinguished from Strychnine by its giving a red colour with nitric acid. Its action is similar to Strychnine, but much weaker. It has been used for epilepsy in the form of **Liquor Brucinæ**, 1 per cent. *Dose*—10 minims (0.06 cc.) twice a day. *Dose of Brucine*— $\frac{1}{12}$  to  $\frac{1}{2}$  grain (0.0054 to 0.032 gm.)

*Strychnos Nuxvomica* is common in India, the seeds being exported in large quantities. *S. Colubrina* and *S. Ignatii* also contain Strychnine, the wood of the former known as Lignum Colubrinum, or *Goagri-lokri*, being used as an antiperiodic, and, curiously enough, also as a remedy for snake-bite (see page 284) from which it derived its Portuguese name of *Pao de Cobra*.

**SULPHAMINOL.**—See page 288.

### SULPHONAL, B. P.

**Sulphonal;** Diethylsulphon-dimethylmethane.  $(CH_3)_2C(SO_2C_2H_5)_2$ .—An oxidation product of ethylmercaptan and acetone. It occurs in colourless, odourless, tasteless crystals; soluble in 15 parts of boiling water and in 500 parts of cold water, more soluble in alcohol and ether.

Sulphonal is a valuable hypnotic, its freedom from taste and also from all toxic properties being greatly in its favour. No cases have been met with in which a craving has been set up. It answers best in simple insomnia, in febrile sleeplessness with

depressed circulation, in the sleeplessness of phthisis, Bright's disease, and intercostal neuralgia, and in delirium tremens, mania, and epilepsy. It is rather slower in producing its effects, but the sleep is, as a rule, more prolonged than under chloral. Its effects appear to be slightly cumulative.

*Dose*—10 to 30 grains (0·65 to 0·2 gm.), in fine powder, lozenges, or solution.

**Sulphonal Lozenges.**—8 grains (0·52 gm.) and 16 grains (1·065 gm.) each. These immediately disintegrate in the stomach, and are superior to compressed tablets.

The best method of administering Sulphonal is to dissolve a dose in *hot* water, in which case its action is almost immediate.

**Tetronol** ; Diethylsulphon-diethylmethane.  $(C_2H_5)_2C(SO_2C_2H_5)_2$ .—Has both the methyl groups replaced by ethyl groups, and is twice the strength of Sulphonal. Similar to Trional, but less soluble in water. *Dose*—10 to 20 grains (0·65 to 1·3 gm.)

Trinol (see below) and Tetronal have been experimented with and found equal, and in some cases superior, to Sulphonal.—*Ph. J.*, Aug. 30, '90.

The Therapeutic Committee of the British Medical Association has reported as to the comparative utility of Sulphonal, Paraldehyde, and Chloralamide. Sulphonal produced sleep in  $\frac{1}{2}$  to 2 hours as a rule, Paraldehyde in 5 to 15 minutes, Chloralamide in 15 to 20 minutes. Sulphonal and Paraldehyde caused drowsiness, and the latter vomiting. Chloralamide had no bad effects.—*Ph. J.*, Aug. 9, '90.

**Trional** ; Diethylsulphon-methyl-ethylmethane.  $(CH_3)(C_2H_5)C(SO_2C_2H_5)_2$ .—Similar to Sulphonal, but with an ethyl group in place of one of the methyl groups, which is said to intensify the hypnotic action. It occurs in small crystalline scales, taste slightly bitter, very slightly soluble in water. Its hypnotic action is half as great again as Sulphonal. *Dose*—10 to 30 grains (0·65 to 0·2 gm.)

## SULPHUR.

This is met with in the following forms—

**Sulphur Sublimatum, B. P.** Sublimed Sulphur, Flowers of Sulphur.—Used for the following :—

*Official Preparations—*

Confectio Sulphuris	...	...	...	...	1 in 2½
Unguentum Sulphuris	.	...	...	...	1 in 10

*Dose of Sulphur*—20 to 60 grains (1·3 to 4 gm.)

**Sulphur Precipitatum, B. P.**, Precipitated Sulphur.—This is free from grittiness, and much more suitable for medicinal use. The old-fashioned Milk of Sulphur (*Lac Sulphuris*) contained sulphate of calcium, which this does not.

**Trochisci Sulphuris, B. P.**—Each Lozenge contains 5 grains Precipitated Sulphur, and 1 grain Acid Tartrate of Potassium, flavoured with Orange. The best form for the internal administration of Sulphur. *Dose*—1 to 6 Lozenges. One or two may be taken at bed-time and continued for several weeks; if desired, the dose may be repeated in the morning.

Externally, Sulphur is useful in scabies and other parasitic skin diseases.

**Unguentum Sulphuris Compositum**, Hebra's Itch Ointment, Wilkinson's Ointment.—Contains Sulphur, Chalk, Soft Soap, Huile de Cade, and Lard. Useful for parasitic skin diseases.

**Sulphuris Chloridum**, Chloride of Sulphur,  $S_2Cl_2$ .—A reddish yellow liquid, prepared by direct combination of Chlorine and Sulphur. It has a penetrating odour, fumes when exposed to the air, is decomposed by alcohol, water, or ether, but is soluble in benzol. It is used for scabies and acne in the form of

**Unguentum Sulphuris Hypochloritis**, which contains Sulphur, Chloride of Sulphur, and Simple Ointment.

**Unguentum Sulphuris Iodidi, B. P.**—Useful for acne.

**Sulphaminol**.—A new antiseptic. It is Thio-oxydiphenylamine, and occurs as a pale yellow, odourless and tasteless powder, insoluble in water, soluble in alcohol, glacial acetic acid, and alkalis. In contact with the animal secretions it is said to split up into its components, Sulphur and Phenol. It has been found to be non-toxic, and has been used with success in place of Iodoform.—*Ph. J.*, May 3, '90; *H.*, July '90.

## TABELLÆ.

**Compressed Tablets**.—Lenticular discs, each containing a definite amount of some drug, compressed into that form by

machinery. They have some advantages over pills, being easier to swallow, and containing, as a rule, the pure drug without any excipient.

**Tablet Triturates**, containing small doses of the more powerful drugs, triturated with Sugar of Milk and compressed, are also sold.

**Hypodermic Tablets**.—See Index.

**TANNAL**.—See page 35.

### TANNALBIN.

**Tannoform**.— $C_{20}H_{20}O_{13}$ .—A combination of Tannin with albumen. A reddish white, light powder, insoluble in water, but soluble in alkaline solutions. Melts at  $230^{\circ}C$ . with decomposition. Quite harmless, useful in skin diseases and in chronic diarrhœa. It is devoid of taste and odour. "The astringent action of the drug was well marked in the various forms of diarrhœa, even including cases of suspected tuberculosis of the bowels."—*B. M. J.*, July 11, '96.

*Dose*—8 to 15 grains (0.52 to 1 gm.)

### TANNONE.

**Tannapin**.—A condensation product of Tannin and Urotropin. Useful in affections of the intestines. Contains 87 per cent. Tannic Acid and 13 per cent. Urotropin. A light-brown, tasteless powder, almost insoluble in water, alcohol, and ether, soluble in weak alkalis. *Dose*—1 grain (0.0065 gm.)—*B. M. J.*, Jan., 15 '98.

### TANNIGEN.

A greyish-white, tasteless, inodorous powder, insoluble in water. Not dissolved in the stomach. For chronic diarrhœa. *Dose*—3 to 8 grains.

### TEREBENUM, B. P.

**Pure Terebene**.—An isomer of Oil of Turpentine prepared by treating the latter with Sulphuric Acid, and distilling until the distillate is optically inactive. It is a clear colourless liquid

with an agreeable terebinthinate odour. Sp. gr. 0·864. It must be distinguished from the dark-coloured disinfectant sold as *Teregene*, which is a crude polymerised Oil of Turpentine.

The vapour of Terebene is a good sedative and antiseptic inhalation in phthisis and cough, and given internally, in emulsion or on sugar, it has been recommended for dysentery, also for dyspepsia and flatulence.

*Dose*—5 to 15 minims (0·3 to 0·9 cc.)

**Vapor Terebenæ.**—40 minims to 1 ounce with Light Carbonate of Magnesium. A teaspoonful in a pint of water at 140° F. as an inhalation.

**Terpin-Hydrate**, Terpene Hydrate, Hydrate of Oil of Turpentine,  $C_{10}H_{16}3H_2O$ .—Also known as *Turpentine Camphor*. A derivative of Oil of Turpentine in colourless crystals, having the odour of Terebene, sparingly soluble in water, readily in alcohol and oils. It is sometimes deposited from oil of turpentine when the latter contains water. Useful in bronchitis and chest affections, loosening the expectoration. Has been given in neuralgia in doses of 3 to 4 grs. three times a day between meals. *Dose*—2 to 6 grains (0·13 to 0·4 gm.)

**Terpinol.**—A colourless, oily, aromatic liquid obtained by the action of Sulphuric Acid on Terpin. Its uses are similar to those of Terpin. It is best given in gelatine capsules, the dose being diluted with Olive Oil. *Dose*—2 grains (0·13 gm.)

### TEREBINTHINA CHIA.

**Chian Turpentine.**—An oleo-resin obtained by incision from the trunk of *Pistacia terebinthus* (Anacardiaceæ) of Chio. It is a soft solid, translucent, with a peculiar odour. It has been used as a remedy for cancer of the female organs, in which it is said to act upon the periphery of the growth, causing disappearance of the cancerous infiltration.

*Dose*—5 to 10 grains (0·32 to 0·65 gm.)

**Mistura Terebinthinæ Chiæ.**—Contains 30 grs. in 1 ounce, emulsified with acacia and tragacanth. *Dose*—1 drachm (3·5 cc.) thrice daily.

**Pilula Terebinthinæ Chiæ.**—3 grains in each pill with 2 grains Sublimed Sulphur. *Dose*—2 every four hours.

**Pilula Terebinthinæ et Zinci.** *L. H.*—4 grains in each pill, with 1 grain Sulphate of Zinc. *Dose*—1 to 3 pills.

## TERMINALIA CHEBULA.

The Black Myrobalan (*Combretaceæ*), found in India. The dried fruits (*Myrobalans*) contain a large amount of astringent principles, which render them valuable in the arts and as a substitute for galls in lotions, injections, etc. As much as 18·8 per cent. of Tannin has been found in a sample of commercial ground myrobalans.

**TETRONAL.**—See page 287.

## THALLINÆ SULPHAS.

**Sulphate of Thalline; Thalline; Tetra hydro-paramethyloxychinoline.**  $C_9H_{10}N(OCH)$ .—The sulphate of a synthetically prepared base from Chinoline. A white crystalline solid, soluble in water, less so in alcohol. A dilute solution gives a green colour with ferrie chloride. Thalline takes its name from the colour of this reaction. The crystals have an aromatic bitter taste, and darken by exposure to the light.

Has been used as an antipyretic, but has now fallen into disuse. It is recommended in small doses for typhoid fever. As an antiseptic it has been found useful in gonorrhœa, injections of 4 to 8 grains to 1 ounce of water being used, as well as **Bougies**, 2½ and 5 per cent. with gelatine.

*Dose*—3 to 5 grains (0·2 to 0·32 gm.)

**Antrophores.**—Spiral spring bougies, coated with gelatine, and containing 2½ and 5 per cent. of Thalline. Also with Cocaine, Iodoform, Zinc Sulphate, and Tannin, Nitrate of Silver, Subnitrate of Bismuth. They are used for gonorrhœa.—*B. M. J.* Oct, 20, '88.

**Thallinæ Periodidum.**—Periodo-sulphate of Thalline. Bluish black masses, insoluble in water. *Dose*—2 to 5 grains (0·13 to 0·32 gm.)

**Thalline Tartrate** is also used. *Dose*—3 to 8 grains (0·2 to 0·52 gm.)



## THEOBROMINA.

**Theobromine.**  $C_7H_5N_4O_2$ .—An alkaloid obtained from *Theobroma Cacao* (Sterculiaceæ.) It is allied to Caffeine, and is known chemically as di-methylxanthine. A white crystalline powder, sparingly soluble in water, alcohol, or ether. *Dose*—1 to 5 grains (0·065 to 0·32 gm.)

**Diuretin.** Theobromine Sodio-Salicylate.—A white powder, freely soluble in water. It contains 50 per cent. of Theobromine. The Salicylate of Sodium is said to have no connection with its action on the kidneys, beyond increasing its absorbability. In cases where the usual remedies had failed, Diuretin has been found to give very satisfactory results, except where there was extensive degeneration of the kidneys.—*Ph. J.*, Dec. 28, '89; *K.*, July '90.

*Dose*—5 to 15 grains (0·32 to 0·1 gm.) Being very liable to decomposition by acids, and consequently likely to have its action interfered with by the gastric juice, its administration in cachets, or as a clyster, dissolved in lime-water, has been suggested.—*L.*, Jan. 3, '91.

**Uropherin.**—Lithium Diuretin. A white powder, soluble, 1 in 5 of water. A compound of theobromine, lithium, and lithium salicylate.—*Dose* 5 to 15 grains (0·32 to 1 gm.)

**Iodotheobromine.**—Prepared by adding a concentrated solution of sodium salicylate to a mixture of sodium iodide, and theobromine. *Dose*—2 to 10 grains (0·13 to 0·65 gm.)

## THEOPHYLLINE.

**Di-methylxanthine.**—Obtained from the leaves of *Camellia*. An isomeric compound not identical with theobromine and paraxanthine. It occurs in colourless acicular crystals, dissolves easily in warm water. Not applied as yet therapeutically.

## THERMIFUGIN.

$C_9H_6(CH_3)N.COONa$ .—The sodium salt of a synthetic acid, methyl-trihydro-oxyquinoline carbonic acid. A faint yellowish-white salt, forming a brown solution with water. It has been recommended as an antipyretic, being said to combine the three effects of reducing temperature, retarding the pulse, and increasing the blood pressure.

It has not come into general use.

**THIOCOL**.—See page 118.

**THIOL**.—See page 173.

### THUJA.

**Arbor Vitæ**.—The leaves of *Thuja occidentalis* (Coniferæ), an American tree. It has been used as a decoction for intermittent fever, cough, rheumatism, etc. Employed to remove warts and fungoid granulations from ulcers.

It is given in the form of a **Tincture** in doses of 2 to 5 minims (0·12 to 0·3 ce.) The same tincture may also be applied externally as a compress at the same time.

### THIOPHEN DI-IODIDE.

$C_4H_2I_2S$ .—Thiophen, a compound closely allied to Pyrrol, is a colourless oil-like liquid. The Di-iodide is in tubular crystals, insoluble in water, readily soluble in alcohol. An iodoform substitute.

### THIOSINAMINE.

**Allylsulpho-urea**.—Colourless prisms, with a faint garlic-like odour, and a bitter taste, soluble in water, alcohol and ether, but decomposing in aqueous solution. Subcutaneously injected, it produces a well-marked local reaction in certain chronic cutaneous diseases, especially in lupus.

**Dose**.—5 to 7 grains twice weekly in 15 per cent. alcoholic solutions.

### THYMOL, B. P.

**Thymol ; Thymylic Alcohol**.  $C_{10}H_{14}HO$ .—A steareptene obtained from the oil of thyme, *Thymus vulgaris* (Labiatae.) horse-mint, *Monarda punctata*, or bishop's weed, *Phythotis Ajowan* by saponification with soda, and treatment with hydrochloric acid, or by exposing the oil to a low temperature. It is chiefly prepared from *Ptychotis* (also known as *Carum captivum*), and is similar to the *Ajwainkaphul* sold in the Indian bazaars, which is prepared in Central India, by exposing the oil to spontaneous evaporation at a low temperature. Thymol is homologous with Phenol ( $C_6H_5HO$ ), and occurs in large colourless crystals, with a strong odour

of thyme, and an aromatic taste, very sparingly soluble in water, freely in alcohol, ether, chloroform, olive oil, glacial acetic acid, and alkalis. It forms liquid combinations with chloral, camphor, carbolic acid, etc. Thymol has been prepared synthetically from cuminol.

It acts as a powerful anæsthetic, its chief use being for surgical dressings. It is also useful as a lotion in ozæna, and as an ointment in eczema or ringworm. Internally it has been recommended for diabetes, typhoid, also in large doses (45 to 60 grains *per diem*) for tuberculous.

*Dose*— $\frac{1}{2}$  to 2 grains.

**Thymolite.**—See page 188.

**Liquor Thymol.**—1 in 800. As an antiseptic lotion or spray, useful for burns, removing the smell of tobacco from the mouth, etc. **Volckmann's Solution** contains 1 in 1000, with alcohol and glycerine.

**Thymol Gauze and Wool.**—3 per cent.

**Pastillus Thymol.**— $\frac{1}{2}$  grain each (0.002 gm.)

**Thymol Soap.**—Toilet soaps containing Thymol are prepared.

**Spiritus Thymol.**—1 in 10. *Dose*—3 to 15 minims (0.18 to 0.9 cc.)

**Unguentum Thymol.**—5 to 30 grains to 1 ounce. The Thymol must be completely dissolved, and the ointment free from grittiness, otherwise it will produce irritation. It keeps off mosquitoes, etc., and is useful in eczema and ringworm.

**Vapor Thymol.**—6 grains to 1 ounce with Light Carbonate of Magnesium. A teaspoonful in a pint of water at 140° F. for inhalation. For pharyngitis and laryngitis.

**Listerine.**—A proprietary antiseptic, composed of Oil of Thyme, with Eucalyptus, Baptisia, Wintergreen, and Mint Oils, Boric and Benzoic Acids, and Alcohol. Used as an internal and external antiseptic.

*Dose*—One drachm (3.5 cc.)

**Thymoform.**—A condensation product of Thymol and Formaldehyde. A yellow tasteless powder, with a faint odour of

Thymol, dissolves easily in ether, chloroform, and olive oil, insoluble in water. Suggested as a substitute for iodoform and permatol. On iodising thymoform in the usual manner, **Iodothymoform** is obtained. This is a yellow powder, rich in iodine odourless; dissolves easily in ether or alcohol.—*C. & D.*, Aug. 6, '98.

### THYMUS GLAND.

Thought to be useful in cases of defective development, such as Rickets, Pseudo-hypertrophic paralysis, etc. *Dose*—From 4 grains (0.26 gm.) and upwards in water, milk, gruel or beef-tea. The initial dose should be small on account of possible systemic disturbance.

### THYROID GLAND.

Has been extensively employed in relieving myxœdema, lupus goitre, psoriasis and chronic eczema, with general success.

A liquid extract prepared from the glands has been used hypodermically, and also administered by the mouth, but the powdered dried gland and tablets of the same are the most convenient for use.

**Liquor Thyroidei, B. P.**—Thyroid solution. *Dose*—5 to 15 minims (0.3 to 0.9 cc.) *Freshly prepared.*

**Thyroideum Succum, B. P.**—Dry Thyroid. *Dose*—3 to 10 grains (0.2 to 0.65 gm.) in cachets or tablet.

**Thyroidin, Iodothyrim.**—The active principle of the Thyroid gland, brought out by F. Bayer & Co., and so named by them. A permanent preparation, the iodine compound being freed from albumenoid bodies; in this, Thyroidin is distinguished from all thyroid preparations at present in commerce.

It is a white powder which tastes only of milk sugar, the iodine compound contained in it, is with difficulty soluble in water alone, easily soluble in water in the presence of sodium carbonate or other alkalies. Alcohol removes the iodine compound from Thyroidine. One part of Thyroidine is equivalent to one part of fresh Thyroid gland.

### TINOSPORA CORDIFOLIA.

**Gulanha, Cocculus Cordifolius.** (Menispermaceæ). The root and stems collected in the hot season when the bitter principle

is most abundant and concentrated. It is tonic, antiperiodic, and diuretic. A *Tincture*, *Infusion*, and *Extract* are official in the P. I.

### TODDALIA ACULEATA.

(Rutaceæ).—A shrub found in the Himalayas. The root bark from which a *Tincture* and *Infusion* is prepared, is official in the P. I. Under the name of *Lopez Root*, it once enjoyed some celebrity in Europe as a remedy for diarrhœa. Berberine is said to be the source of the bitterness and colouring matter. It is employed in constitutional debility and in convalescence after febrile and other exhausting diseases.

### TOLYPYRIN.

**Para-tolyldimethylpyrazolon.**—Colourless crystals with a bitter taste. Soluble, 1 in 10 of water, soluble also in alcohol, almost insoluble in ether.

An antipyretic, antirheumatic, and antineuralgic. *Dose*—5 to 20 grains (0·32 to 1·3 gm.)

### TOLYSAL.

**Tolypyrine Salicylate.**—A compound of tolypyrin and salicylic acid. Small, almost colourless crystals. Sparingly soluble in water, with difficulty in ether, but easily soluble in alcohol and acetic ether.

Recommended as an efficient and reliable antineuralgic, antipyretic, and antirheumatic, which does not cause subsequent bad effects. *Dose*—5 to 20 grains (0·32 to 1·3 gm.)

### TONGA.

A fluid extract prepared from the bark and root of *Premna taitensis* (Verbenaceæ) and *Raphidophora vitensis* (Araceæ) of the Fiji Islands. A dark brown liquid, miscible with water. Said to be very valuable in neuralgia, especially that of the cranial nerves.

*Dose*— $\frac{1}{2}$  to 2 drachms, 3 times a day.

“Tonga” is the subject of a patent in England, but is manufactured in America from the plants abovementioned.

**TRIBROMPHENOL.** See page 9.

**TRICHLORPHENOL.** See Page 10.

## TRIFOLIUM.

**Clover.**—The flowers of *Trifolium pratense* (Leguminosæ) or purple clover. It has long been employed as a remedy for whooping cough, and has more recently been used externally as a wash for ill-conditioned ulcers, and internally as an alterative in scrofula, syphilis, etc.

**Extractum Trifolii Liquidum.**—Miscible with water.  
*Dose*— $\frac{1}{2}$  to 2 drachms.

**Syrupus Trifolii.** *Dose*—A teaspoonful 3 or 4 times daily for whooping cough.

**Syrupus Trifolii Compositus.**—An American preparation containing in each ounce :—*Trifolium*, 32 grains ; *Stillingia*, Lappa, *Phytolacca*, *Berberis Aquifolium*, and *Cascara Amarga*, of each 16 grains ; *Xanthoxylum*, 4 grains ; Iodide of Potassium, 8 grains. Used as an alterative similarly to *Sarsaparilla*, *McDade's Liquid*, etc. *Dose*—1 to 2 drachms thrice daily.

**TRIKRESOL.**—See page 12.

## TRIMETHYLAMINA.

**Trimethylamine ; Secalin.**  $(CH_3)_3 N$ .—A compound ammonia obtained from herringbrine, formerly prepared by the action of caustic alkali on ergot, hence its name *Secalin*. It is isomeric with Propylamine  $(C_3 H_7. NH)_2$  for which it has often been mistaken, the medicinal preparation sometimes incorrectly going under the latter name. A solution containing 20 per cent. is used medicinally. It is a colourless, alkaline liquid, with a strong odour of herringbrine, miscible with water. It has been found useful in acute rheumatism, taken internally and used externally as a liniment 1 to 3 of glycerine.

*Dose of the solution*—20 to 60 minims ( $1\cdot2$  to  $3\cdot5$  cc.), every 2 or 3 hours ; the disagreeable odour may be disguised by means of aromatics.

**Trimethylaminæ Hydrochloridum.**—Prepared from the solution by neutralising with hydrochloric acid and crystallising. A crystalline salt, deliquescent and soluble in water. It has a slight odour of the base, and a pungent, saline taste.  
*Dose*—2 to 3 grains ( $0\cdot13$  to 2 gm.), 3 to 5 times a day, in solution or coated pills.



**Aminol.**—A liquid containing trimethylamine and other amines prepared from herringbrine. Solution D for general use as a Disinfectant; solution R for internal use. *Dose*—A table-spoonful; also used as a lotion, gargle, etc., diluted with two parts of water.

**TRINITRIN.**—See page 212.

**TRIONAL.**—See page 287.

### TRITICUM, U. S. P.

**Couch-grass.**—The rhizome of *Triticum repens* (Graminaeae). It acts as a mild diuretic, but is chiefly used for its emollient properties in affections of the bladder.

**Decoctum Tritici.**—1 in 20. *Dose*—2 to 8 ounces (60 to 240 cc.)

<b>Extractum Tritici Fluidum, U. S. P.</b>	} <i>Dose</i> —1 to 6 drs. (3·5 to 21 cc.)
<b>Extractum Tritici Liquidum, B. P. C.</b>	

### TURPETHUM.

**Turpeth; Turbith.**—The root and stem of *Ipomæa turpethum* (Convolvulaceae), common in India. Has long been used by natives as a cathartic under the name of *Nisot*, but has not found favour among European practitioners owing to the uncertainty of its action.

*Dose*—30 to 60 grains (2 to 4 gm.)

**Extractum Turpethi.**—*Dose*—10 to 20 grains (0·65 to 1·3 gm.)

Turpeth contains 4 per cent. of a brownish-yellow drastic resin, 94 per cent. of which consists of *Turpethin*. This may be converted by the action of alkalies into *Turpethic Acid*, and by mineral acids into glucose and *Turpetholic Acid*. The root contains also a volatile oil and a yellow colouring matter.—*Watts*.

### TYLOPHORA ASTHMATICA.

A small twining plant of the natural order Aselepiadæ, common in Southern India. The leaves are official in the P. I., and were regarded as one of the best indigenous substitutes for Ipecacuanha. The whole plant contains emetic principles.

The dried leaves and the dried, and powdered bark of the fresh root have been used as emetic, expectorant, and diaphoretic. *Dose*—about double that of Ipecacuanha.

## ULEXINA.

**Ulexine**  $C_{11}H_{14}N_2O$ .—An alkaloid obtained from the seeds of furze, *Ulex europæus* (Leguminosæ), a common English shrub. In yellowish-white crystals, deliquescent, soluble in water and chloroform, insoluble in ether.—*Ph. J.*, Aug. 7, and Sept. 18, '86.

Ulexine is a nerve and muscle poison, a respiratory poison, raising arterial tension and producing diuresis; the respiratory action being produced by the smallest doses, seems to be most important.—*Journ. Physiology*, vol. iii, No. 2.

It is an antidote to Strychnine, and a powerful diuretic.—*Ph. J.*, June 22, '89; *L.*, Feb. 4, '88.

Must be employed with caution in stricture,  $\frac{1}{16}$  grain having caused temporary suppression of urine, vomiting, and fever.—*L.*, Sept. 24, '87.

*Dose*— $\frac{1}{16}$  to  $\frac{1}{8}$  grain (0.0032 to 0.013 gm.)

**Ulexinæ Hydrobromidum**.—Freely soluble in water.

*Dose*—The same.

The **Nitrate** and **Hydrochloride** are also prepared.

Chemical and physical characters of Ulexine, see *Ph. J.*, June 22, '89.

**Cytisine**, an alkaloid obtained from laburnum, *Cytisus Laburnum*, has properties, very similar to Ulexine, and is closely related to it chemically.—*Ph. J.*, May 31, and June 14, '90.

The furze (also known as gorse or whin,) has long been used in Scotland as a domestic remedy on account of its diuretic properties.

## URANII NITRAS, B. P.

**Nitrate of Uranium**.—The nitrate of a metal occurring in pitchblende and other minerals. In yellow crystals, freely soluble in water, having an astringent taste. It is used in diabetes, also as a throat spray, 10 grains to 1 ounce.

*Dose*— $\frac{1}{2}$  to 5 grains (0.032 to 0.32 gm.)

It is an irritant poison, liable to produce gastro-intestinal inflammation, emaciation, and sugar in the urine.—*T. G.*, Oct. '88.

**Uranii et Quininæ Chloridum**.—Yellow crystals, soluble 1 in 100 of water. *Dose*—3 to 6 grains (0.2 to 0.4 gm.)

## URETHANE.

**Ethyl Carbamate.**  $\text{CO.NH}_2.\text{OC}_2\text{H}_5$ .—It occurs in white crystals, freely soluble in water, without much taste or odour. It acts as a hypnotic, producing normal sleep without affecting the heart. It is especially recommended for children, in cases of acute mania and delirium tremens, and as an antidote to Strychnine, Picrotoxin, and Resorcin. It does not appear to have come into very general use.

*Dose*—10 to 60 grains (0·65 to 4 gm.)

See also *K.*, Jan. '90.

**Uralium**, Ural, Chloral-Urethane.—A compound of Urethane and Chloral, but differing from both its constituents by being sparingly soluble in water. It is soluble, 1 in 6 of spirit. Recommended as a hypnotic, being said to be rapid and safe. *Dose*—10 to 40 grains (0·65 to 2·6 gm.)—*Ph. J.*, Mar. 29, '90; *C. & D.*, Mar. 23, '89.

It is uncertain in its effects, often disorders digestion, sometimes causing nausea and vomiting.—*L.*, Jan. 3, '91.

**Somnal**, Ethylrites Chloralurethane.—Stated to be a compound of Urethane, Chloral, and Alcohol, differing chemically from Chloralurethane. It is said to produce sleep in half an hour, lasting 6 to 8 hours. The alcoholic solution is used. *Dose*—15 to 30 minims (0·9 to 1·8 cc.) It is believed to be merely a solution, in alcohol of Chloral Hydrate and Urethane.—*Ph. J.*, Nov. 2, '89; *K.*, Jan. '90; *Ph. Rec.*, Jan. 6, '90.

**Euphorin**, Phenyl Urethane, Ethyl Phenylcarbamate.  $\text{CO.NH.C}_6\text{H}_5.\text{OC}_2\text{H}_5$ .—A compound related to Acetanilid, in white crystals, having a slightly acid taste, sparingly soluble in water, freely in alcohol. Recommended as a safe and rapid antipyretic, also as an analgesic, antirheumatic, and antiseptic.—*Ph. J.*, Nov. 8, '90; *K.*, July '90. *Dose*—3 to 6 grains (0·2 to 0·4 gm.)

**UROPHERIN.**—See page 195.

## UROTROPINE.

**Hexamethylenetetramine. Aminoform.** Granular crystal soluble in water. A diuretic. Has been experimented

with in urinary calculus with encouraging results. *Dose*—5 to 15 grains (0·32 to 1 gm.).—*A. M. S. B.*, Oct. 1, '95. Said to be a satisfactory solvent of uric acid concretions, and to have the added advantage of preventing the development of bacteria in the Urine.—*B. Ph.*, July '98.

## URSAL.

A compound of salicylic acid and urea. Said to be useful where, in addition to the general salicylic effect, a diuretic action is wanted. A valuable remedy in gout and rheumatic ailments. *Dose*—the same as Sodium Salicylate.

## USTILAGO, U. S. P.

**Corn Smut, Corn Ergot.**—The fungus, *Ustilago Maidis*, grown upon maize, *Zea Mays* (Graminaceæ.) Its therapeutical effects are similar to Ergot, and by some believed to be more uniform; it is superior to the latter drug in hæmorrhages. Given as **Liquid Extract**. *Dose*—15 to 60 minims (0·9 to 3·5 cc.)

## VANILLIN.

**Vanillic Acid.**—The crystalline odorous principle of Vanilla, *Vanilla planifolia* (Orchidaceæ) obtained by exhausting with alcohol. It is also obtained artificially from coniferin. Soluble in alcohol, ether, and volatile oils, insoluble in water.

Its use has been suggested as an excito-motor stimulant in atonic dyspepsia. It is also used as a test for mineral acids, a solution 1 in 30 of alcohol with 2 parts phloroglucin, giving a red colour with such acids, but not with organic acids.

**VASELINUM.**—See page 222.

## VERATRINA, B. P.

**Veratrine, Veratria.**—An alkaloid or mixture of alkaloids, obtained from Cevadilla the seeds of *Schænocaulon officinale* (Melanthaceæ) from Mexico. In grey amorphous masses, very irritating to the nostrils, bitter, acrid and poisonous. It is supposed to consist of *Cevadine*, *Cevadilline*, *Veratrine*, *Sabadine*, *Sabadinine*, and some other alkaloids.

It is an emetic and cathartic, but is seldom given internally, its chief use being as an application for neuralgic pains. It should not be used where the skin is broken.

*Dose*.— $\frac{1}{16}$  to  $\frac{1}{18}$  grain (0·009 to 0·004 gm.)

*Antidotes*.—Emetics; stimulants, coffee; warmth; recumbent position.

**Unguentum Veratrinæ, B. P.**—1 in 50. Used like Aconitine Ointment for neuralgia.

**Oleatum Veratrinæ.**—See page 214.

Veratrine is contained in **Anodyne Amyl Colloid**, page 21.

**Veratrol.**  $C_8H_{10}O_2$ .—A colourless oil, of an agreeable aromatic odour, sp. gr. 1·086. Made by acting on veratric acid, with baryta and heat, soluble in alcohol, ether and oils. An antiseptic.

## VIBURNUM, U. S. P.

**Black Haw.**—The bark of *Viburnum prunifolium* (Caprifoliaceæ). The root-bark is also used, and is held by some to be more efficacious. It acts as a uterine tonic and sedative, and has been found to prevent abortion. Also valuable in dysmenorrhœa and after-pains.

**Extractum Viburni Fluidum, U. S. P.**—Not miscible with water.

The leaves of *V. fœtidum*, a native of Burma, and cultivated in Western India, are used by the natives as a remedy for similar complaints. The plant is known as *Nareel*. The leaf-juice is taken in doses of 2 ounces daily for menorrhagia, and in post-partum hæmorrhage. It is also an old custom among Hindu women who have been confined, to hang a branch of the same plant over their door.—*Pg. Ind.*

## WITHANIA COAGULANS.

**Vegetable Rennet.** A small shrub of the natural order *Solanaceæ* growing in the Punjab, Beluchistan, and Scinde. The ripe fruits are brown and shining on the surface, when fresh they are used as an emetic, and when dried in dyspepsia and flatulent colic.

The dried fruit coagulates or curdles milk. A small portion is rubbed up with a little water, and added to the milk to be coagulated.

The active principle is destroyed by boiling, and precipitated by alcohol. Mr. S. Lea. has shown that it can be extracted either by glycerine or salt solution, the extracts having coagulating powers.

**WRIGHTIA.**—See page 158.

### XYLOL.

**Xylene.**  $C_8H_{10}$ .—A derivative of coal-tar, chemically dimethylbenzene or  $C_6H_4(CH_3)_2$ . A colourless or yellowish liquid, with a faint odour. Sp. gr. 0·86.

It has found application in small-pox, being successfully employed in a large number of cases. It relieves the angina and eruption in the throat, and lessens the fetid exhalation.

*Dose*—10 to 15 minims. May be given in Capsules, containing 5 or 10 minims dissolved in oil.

It is also used as a spray or lotion externally.

### YERBA SANTA.

**Holy Herb; Bear's Weed.**—The leaves of *Eriodictyon glutinosum* and *E. californicum* (Hydrophyllaceæ) from California and Mexico. It is a stimulant to the mucous membrane of the bronchial tubes, and used for bronchitis, asthma, and allied complaints. It has also the property of destroying the bitterness of Quinine, one drachm of the syrup being sufficient for 5 grains of Quinine. In prescribing such a combination no acid should be ordered, acids and acid salts of quinine being incompatible with preparations of the drug.

**Extractum Eriodictyi Liquidum,** Liquid Extract of Yerba Santa.—Not miscible with water unless rendered alkaline. *Dose*—15 to 60 minims (0·9 to 3·5 cc.)

**Syrupus Eriodictyi Aromaticus.**—16 grains in 1 ounce with aromatics. One drachm masks the bitterness of 5 grains Quinine.

### ZINCUM, B. P.

**Zinc.** Zn.—The Zinc salts are astringent and irritant, but on account of their different degrees of solubility, their varying



affinity for water, and perhaps for the tissues, the several members of this group manifest these properties in unequal degrees. Their chief employment is for external application.—*Ring.*

*Antidotes.*—Carbonate of Sodium or Potassium in large quantities, dissolved in warm water; milk and eggs; Tannin, tea, Landanum; Linseed poultices to the abdomen. An enema of gruel, or mucilage of starch, may be given if there be much pain in the abdomen.—*Murrell.*

*Incompatibles.*—Astringents; alkalies and alkaline carbonates. Lime water; Milk.

The following preparations are in use:—

**Zinci Acetas, B. P.**  $\text{Zn} (\text{C}_2\text{H}_3\text{O}_2)_2 \cdot 2\text{H}_2\text{O}$ .—Thin colourless crystalline plates, freely soluble in water. It is used similarly to the Sulphate. *Dose*—1 to 2 grains (0.065 to 0.03 gm.) as a tonic; 10 to 20 grains (0.65 to 1.3 gm.) as an emetic; 2 grains to 1 ounce forms an eye lotion or injection.

**Zinci Boras,** Borate of Zinc.—A white powder used as Ointment in eczema.

**Zinci Bromidum, U. S. P.**  $\text{Zn. Br}_2$ .—A white, or nearly white, granular powder, very deliquescent and soluble in water. Has been successfully used in epilepsy. *Dose*—3 to 10 grains, (0.2 to 0.65 gm.)

**Zinci Carbonas, B. P.**  $\text{Zn Co.} (\text{Zn}_2\text{HO})_2 \text{H O}$ .—A white, impalpable powder insoluble in water. Used like Oxide of Zinc. *Dose*—2 to 10 grains (0.13 to 0.65 gm.)

**Calamina Præparata, B. P., Lapis Calaminaris Præparatus.**—Native carbonate of zinc calcined and reduced to impalpable powder. A pinkish brown powder, consisting of impure oxide of zinc. It should be almost entirely soluble in acids, with effervescence, otherwise it contains sulphate of barium. It is used as a dusting powder, and in face lotions, 40 grains in 1 ounce of Rose water, with 20 grains Oxide of Zinc, and 20 minims Glycerine, forming a useful **Lotion** for eczema and acne.  $\frac{1}{2}$  grain Corrosive Sublimate may be added.—*M.*

**Unguentum Calaminæ,** 1 in 6.

**Ceratum Calaminæ, P. L.**—Turner's cerate. For Burns.

**Zinci Chloridum, B. P.**  $\text{Zn Cl}_2$ .—Usually in white sticks, very deliquescent and caustic, freely soluble in water. It is a powerful astringent, antiseptic, and disinfectant, a lotion of 20 grains to 1 ounce being equal in efficacy to carbolic acid as an antiseptic lotion for surgical purposes. See also page 307.

**Liquor Zinci Chloridi, B. P.**—3 grains in 4 minims. Sp. gr. 1·460. Sir William Burnett's Disinfecting Fluid is a similar solution, but less pure. Sp. gr. 2·000. It usually precipitates basic oxychloride on dilution with water; this may be re-dissolved by adding hydrochloric acid. A powerful disinfectant: it is, however, very poisonous and must be cautiously used.

**Pasta Zinci Chloridi.**—See page 224.

**Zinci Citras.**—An amorphous white powder, imperfectly soluble in water. Has been used for epilepsy. *Dose*—3 to 12 grains. (0·2 to 0·8 gm.)

**Zinci Cyanidum.**—An insoluble white powder. It relieves palpitation and pain in the region of the heart, resembling Digitalis in its action. *Dose*— $\frac{1}{10}$  to 1 grain. (0·0065 to 0·065 gm.)

**Zinci Hypophosphitis.**  $\text{Zn (PH}_2\text{O}_2)_2, 4\text{H}_2\text{O}$ . In this salt both the zinc and phosphorous are in the protoiodized state, in which condition the phosphorous is rendered non-irritant. The salt being perfectly soluble is at once assimilated. A syrup containing 8 grains of the salt to one fluid ounce, is the most suitable form of administration. *Dose* of syrup, one or two fluid drams three times a day Y. B. 1879, p. 328.

**Mercuro-Zinc Cyanide.**—See page 161.

**Zinci et Potassii Cyanidum.**—A soluble salt, recommended for use in place of Hydrocyanic Acid. *Dose*— $\frac{1}{10}$  to 1 grain (0·0065 to 0·065 gm.)

**Zinci Lactas.**—In white crystalline pieces, soluble in water. This salt has been recommended as preferable in epilepsy as it deranges the stomach less than other salts of Zinc. *Dose*—3 to 30 grains (0·2 to 2 gm.)

**Zinci Nitras.**—Has properties similar to the Chloride, in place of which it has been used, it being said to cause less pain and to penetrate deeper.

**Zinc Oleate.**—See page 216.

**Zinc Oxidum, B.P.**  $\text{ZnO}$ .—A white powder, insoluble in water. Internally it is given as a tonic, externally it is used as a dusting powder, or astringent application. *Dose*—3 to 10 grains. (0.2 to 0.65 gm.)

**Gelatum Zinci.**—See page 147.

**Unguentum Zinci, B.P.**—1 in  $6\frac{2}{3}$ .

**Cremor Zinci.**—The same, made with vaseline and perfumed.

**Unguentum Zinci Compositum.**—Equal parts of Zinc Ointment, and Ointment of Glycerine of Subacetate of Lead.

**Salve Mulls.**—Contain  $\frac{1}{2}$  and 1 grain to the square inch, also with Ichthyol and Red Oxide of Mercury.

**Zinci Permanganas.**—Reddish-purple crystals, soluble in water. Used like Permanganate of Potassium (page 249) for lotions, etc., where the astringent action of the Zinc salt is desired.

**Zinci Phosphidum, U. S. P.**  $\text{Zn P}_2$ .—A greyish black powder, or small fragments, insoluble in water, soluble in acids. Contains about 24 per cent. of Phosphorus, and has been recommended as a substitute for that drug. *Dose*— $\frac{1}{15}$  to  $\frac{1}{4}$  grain (0.0032 to 0.02 gm.)

**Zinc Sozoiodol.**—See page 279.

**Zinc Subgallas.**—An odourless, non-toxic, non-irritant greenish gray, neutral powder; insoluble in all ordinary solvents, unaffected by light, and containing 44 per cent. of Zinc oxide, and 46 per cent. of Gallic acid. Used externally and internally. Externally in eczema, fresh and septic wounds, gonorrhœa and hemorrhoids. Applied pure or as an ointment. As an injection, in gonorrhœa it is suspended in water and mucilage, proportion, 1 in 16. *Internal Dose*— $\frac{1}{2}$  to 4 grains (0.032 to 0.26 gm.)

**Zinci Sulphas, B.P.**  $\text{ZnSO}_4, 7\text{H}_2\text{O}$ .—Colourless crystals, soluble in water. Used internally as a tonic and astringent, in epilepsy, chorea, etc., also as an emetic. Externally as an eye-lotion and injection, 1 to 3 grains to 1 ounce. *Dose*—1 to 3 grains (0.065 to 0.2 gm.) as a tonic or astringent; 10 to 30 grains (0.65 to 2 gm.) as an emetic.

**Lotio Rubra.**—Contains 2 grains Sulphate of Zinc, with 15 minims Compound Tincture of Lavender to 1 ounce.

**Zinci Sulphis,** Sulphite of Zinc.  $\text{ZnSO}_3 \cdot 2\text{H}_2\text{O}$ .—A white crystalline salt, stable, and insoluble in water. A non-poisonous and non-irritating antiseptic. It acts by slowly liberating sulphurous acid, and has been used in the form of **Zinc Sulphite Gauze.**—

**Zinci Sulphocarbolas, B. P.** Zinci Phenol-Para-Sulphonate.  $\text{Zn}(\text{C}_6\text{H}_5\text{SO}_4)_2 \cdot \text{H}_2\text{O}$ .—Colourless crystals, very soluble in water. Used as an injection; 2 or 3 grains to 1 ounce of water, for gonorrhœa and leucorrhœa.

**Zinci Sulpho-ichthyolas.**—See page 173.

**Zinci Valerianas, B. P.**—White crystals, having an odour of Valerian, slightly soluble in water. Used as an antispasmodic in chorea, epilepsy, hysteria, etc. *Dose*—1 to 6 grains in pill. (0·065 to 0·2 gm.)

**Chloride of Zinc Injections in Tuberculosis.**—Quite recently it has been discovered that, Chloride of Zinc, injected into tubercular tissue, causes fibrous induration of the part, preventing spread of the disease. A 5 to 10 per cent. solution is employed, being injected in doses of 2 or 3 drops in a number of places round the periphery of the diseased part.—*B.M.J.*, July 11, '91; *L.* July 18, '91; *Ph. J.*, xxii, 82.



## URINARY TESTING.

The following comprises the articles and re-agents employed:—

1. *Colour*.—Normal urine is of a pale straw or amber colour. Certain drugs have the property of colouring the urine, or the colour may be modified by the presence of blood, bile, etc. Feverish patients usually pass highly coloured urine. Coloured plates showing the different tints are sold for purposes of comparison.

2. *Specific Gravity*.—This should be between 1.010 and 1.025. Diabetes insipidus lowers and diabetes mellitus raises the density. The sp. gr. may be taken by means of a *Urinometer*, an instrument shaped like an ordinary hydrometer, the scale of which shows, on the normal range mentioned above, a mark which indicates the healthy standard. With normal urine the spindle should float within this mark.

A more convenient method, though scarcely so accurate, is by means of the *Specific Gravity Beads*. A tube, open at the bottom, contains six beads of different densities, marked 5, 10, 15, 20, 25, and 30 respectively, and corresponding to the figures 1.005 to 1.030, the heaviest (30) being at the bottom. The number on the bead which neither floats nor sinks indicates the sp. gr. of the liquid. The tube containing the beads is to be put bodily into a vessel containing the urine to be tested, and should some beads float and some sink, none maintaining an indifferent state, water must be added in definite proportion to bring one of the beads to the point of sinking. The figure on this bead is then to be multiplied by the amount of water and urine and the results divided by the amount of urine to obtain the sp. gr.

Example: 2 drachms (120 minims) of urine cause beads 25 and 30 to sink and 5, 10, 15, and 20 to float: 20 minims of water added brings bead 20 to the point of sinking; then  $\frac{20 \times (120+20)}{120} = 23.3$ —therefore 1.0233 is the specific gravity. To correct for temperature one unit should be added for every 8° F. above 60°. Thus, in the case quoted, if taken in India at a temperature of 84° F., the result would be  $23.3+3=26.3$ , and the sp. gr. 1.0263.

3. *Acidity*.—Normal urine should be slightly acid. The following tests may be used to qualitatively determine acidity or alkalinity:—

**Litmus Paper.**—The blue paper is turned red by acids, the red being rendered blue by alkalis. If ammonia be the alkali, the red colour will return on heating the paper.

**Litmus Pencils.**—Litmus in pencil form, one end being Blue, the other red. A mark is made with the pencil on a piece of paper which is used in the same manner as ordinary litmus paper.

**Liquor Calcis Iodinatæ.**—See page 181.

4. *Sediment.*—If a sediment be present, heat a little of the urine in a test-tube. If it dissolves it consists of *Urates*. If insoluble, add to a portion some acetic acid,—this will dissolve *Phosphates*; to another (if still insoluble) some hydrochloric acid, which will dissolve *Oxalates*. If still undissolved, the deposit consists of *Uric Acid* or *Albumen*. The former of which may be proved by adding liquor potassæ to a fresh portion, when the sediment will dissolve. The presence of albumen may be determined as described on page 310.

The percentage of *Uric Acid* present may be roughly estimated by evaporating 100 c. c. of the urine to half its bulk, adding nitric acid, letting it stand 24 hours, then filtering and weighing the precipitated uric acid.

5. *Microscopical Examination.*—This is of great importance in making an accurate examination of urine, but as it does not come within the scope of the present work, reference must be made to detailed works on the subject.

6. *Chemical Testing.*—This has relation to the detection of the following substances in urine:—Sugar, *Phosphates* (see above), *Albumen*. Bile and *Urea*.

**SUGAR TESTS.**

**Solution of Potassio Cupric Tartrate, B.P.**—*Fehling's Solution.*—This is directed to be made in separate solutions. No. 1 containing 346·4 grains Sulphate of Copper in 5,000 grain measures, while No. 2 contains 1½ ounce Caustic Soda and 4 ounces Tartarated Soda in 5,000 grain-measures. When required for use Nos. 1 and 2 are to be mixed in equal proportions. 54 minims of this will be decolorised by ½ grain diabetic sugar, with precipitation of red cuprous oxide.

**Compressed Pellets,** each representing a definite amount of Fehling's Solution, are also prepared.

**Pavy's Solution.**—Contains Tartarated Soda, Caustic Potash of each 6·9 grains, Sulphate of Copper 1·825 grain, with ammonia water, in each ounce. It is not so sensitive as Fehling's Solution, and better adapted for urine-testing.

In determining the presence of sugar in urine it should be borne in mind that glycuronic acid, produced in the urine by the administration of morphine, chloral, chloroform, and some other drugs, also reduces Fehling's Solution.—*Ph. J.*, Feb. 1, '90.

**Indigo-Carmine (Mulder's Test)**—This is a very sensitive test for sugar, and is employed in the form of test papers, or compressed pellets (the latter in combination with Sodium Carbonate). One of the latter is to be dissolved in 30 minims of water by heat in a test tube, and the urine added drop by drop to the boiling liquid. If sugar be present, the colour changes from blue to violet, red, and finally yellow. The test being very delicate, not more than 2 drops of urine need be added, and care should be taken not to mix air with the liquid. The sugar may be quantitatively estimated by diluting and comparing colour with a solution of sugar of



known strength. The test papers must be used in connection with a Sodium Carbonate paper (see page 312).

**Bismuth Test.**—This consists in boiling the suspected urine with Subnitrate of Bismuth and Carbonate of Sodium. If sugar be present, black suboxide of bismuth will be thrown down. The absence of sulphur must be previously determined by boiling with oxide of lead, which is blackened by sulphur.

**Ploric Acid** in alkaline solution gives a garnet-red colour with glucose. This test should be confirmed by the indigo-Carmine test.

**Phenyl-hydrazine Hydrochloride.**—This re-agent occurs in colourless crystalline scales. It is heated with twice its weight of Acetate of Sodium in solution, and then boiled for 20 minutes with an equal volume of the suspected urine. Yellow crystals of phenyl-glucosazine are deposited on cooling, if sugar be present.

[Phenyl-hydrazine has also been recommended as an antiseptic, a solution of 1 in 1000 being said to have a preservative effect equal to a solution of mercuric chloride of similar strength.—*Ph. J.*, Feb. 2, '89. It gives no precipitate with albumen, but is poisonous in large quantities and unsuitable for a food preservative.]

**Safranine.**—A coal-tar colour produced by the action of nitrous acid on ortho-toluidine and by subsequent oxidation. Used as a test for sugar in solution 1 in 1000. Equal parts of urine, Liquor Potassæ, and this solution is heated to boiling without agitation. If sugar be present to the amount of 0.1 per cent., the liquid will become decolourised.

#### ALBUMEN TESTS

In addition to the well-known Nitric Acid test, the following have been introduced:

**Salicyl-Sulphonic Acid or Salliphonic Acid.**—A combination of Salicylic and Sulphuric Acids crystallising in colourless needles, soluble in water. A saturated aqueous solution is a very delicate test for proteids detecting 1 of proteid in 100,000, all of which, except albumen, disappear on heating.

The test acts in the cold, and does not precipitate phosphates, urates, mucin, alkaloids, etc.—*B. M. J.*, April 18, '91; *C. & D.*, Apr. 25, '91; *M. R.*, June '91.

**Acidulated Brine Test.**—The re-agent consists of a saturated solution of common salt in water containing 1 of diluted hydrochloric acid in 20. It must be carefully added to the urine in a test tube, when, if albumen be present, a cloudy ring is formed at the junction of the liquids. This precipitate is liable to be redissolved by diluting the liquid.

**Potassio-Mercuric Iodide Test.**—This is a very delicate test. The re-agent contains—

Iodide of Potassium ...	3.22 grammes.
Perchloride of Mercury ...	1.35 "
Distilled water to 100 cubic centimetres	

It precipitates peptones and vegetable alkaloids as well as albumen: the former, however, clear up on heating. The sample of urine should be rendered slightly acid by citric or acetic acid and warmed, the re-agent then added, and the whole heated.

This test may be made quantitative by adding the re-agent drop by drop to 10 c.c. of the acidulated urine until the albumen has all been precipitated, this point being determined by removing a drop of the urine from time to time to a plate and adding a confirmatory solution (1 per cent. Mercuric Chloride) until a red colour is produced, which indicates exhaustion of the albumen. Each drop (2 Cgr.) of the re-agent used represents 0.5 gramme albumen per litre.

**Potassio-Mercuric Iodide Pellets and Citric Acid Pellets** are prepared for the qualitative application of this test.

**Sodium Tungstate Pellets.**—One of these is to be heated with the acidulated urine to precipitate the albumen, as in the last case. It precipitates peptones but not alkaloids, and will detect 1 of albumen in 20,000 of urine.

**Picric Acid.**—A saturated solution of Picric Acid added carefully to the suspected urine in a test tube produces a cloudiness with albumen. It also precipitates peptones, alkaloids, and oleo-resins (as copaiba), but these are dissipated on boiling. As a test for sugar, see page 310.

**Picric Acid Pellets** are also prepared.

**Potassium Ferrocyanide Pellets.**—This is a less delicate test than the preceding, but less liable to lead to false conclusions, as it does not precipitate peptones or alkaloids. A Citric Acid pellet is to be added to about a drachm of urine in a test tube and slightly heated; when cooled a Ferrocyanide pellet should be added and allowed to dissolve; hydroferrocyanic acid is set free, which will give a cloudiness with 1 part of albumen in 12,000.

This test may also be performed with a **Solution of Ferrocyanide of Potassium**, 5 grains to 1 ounce.

**Millon's Re-agent** (Nitroso-Nitrate of Mercuric).—This gives a yellow coloration in the cold and a red coloration on heating, in the presence of albumen or urea.

**Trichloroacetic Acid.**—A solution of this re-agent gives precipitate with albumen, similar to Nitric Acid.

**Sulphocyanide Test.**—This is a recent introduction, the solution consisting of—

Potassium Sulphocyanide	...	...	...	1 part.
Distilled Water	...	...	...	10 parts.
Dissolve and add Acetic Acid	...	...	...	2 parts.

A few drops added to albuminous urine in a test-tube will produce a turbidity or a precipitate, according to the amount of albumen present.—*M. R.*, Aug. '90.

**Spiegler's Test.**—Corrosive sublimate 8, Tartaric acid 4, Distilled water 20, glycerine 20. Mucin is precipitated from the sample of urine by a few drops of strong acetic acid and filtered out. Spiegler's re-agent is then carefully poured in, and if albumen is present it is shown by a white zone.

**Test Papers** consist of slips of paper impregnated with the re-agent. They are prepared with Indigo-Carmine (see page 309), Picric Acid, Potassio-Mercuric Iodide, Potassium Ferrocyanide, and Sodium Tungstate; also with Sodium Carbonate and with Citric Acid, and Compound Papers containing Indigo-Carmine with Sodium Carbonate, and the others with Citric Acid. The Potassio-Mercuric Iodide papers and pellets are also adapted for quantitative testing, a slip of paper being used having printed lines of varying thickness corresponding to different percentages of albumen. The thinnest line discernible through the precipitate shows the percentage of albumen; should none be visible, the liquid must be diluted and calculation made accordingly.

#### BILE TESTS.

**Bile Pigment** may be detected by adding a drop or two of Nitric Acid to a similar amount of the urine on a white plate, when a play of colours (violet, green, and red) will be observed.

**Peptone Test.**—A solution consisting of

Peptone ..	...	...	...	...	...	30 grains.
Salicylic Acid ..	...	...	...	...	...	4 grains.
Acetic Acid ..	...	...	...	...	...	30 minims.
Distilled Water...	...	...	...	...	...	2 ounces.

is to be used, 1 drachm being placed in a test-tube and 20 minims of the urine added, when an opalescence will appear in proportion to the amount of bile salts present. The precipitate is soluble in acetic or citric acid, but on boiling it only diminishes and does not disappear.

#### TESTS FOR UREA.

**Hypobromite Test.**—The solution for this test is prepared by mixing 100 grammes Caustic Soda with 250 c. c. Distilled Water, and adding 25 c.c. Bromine carefully. This solution re-acts with urea, forming free nitrogen, which is collected in a suitable graduated apparatus. The urea is calculated from the amount of nitrogen.

**Hypochlorite Test.**—This test is similar to the preceding, substituting Hypochlorite for Hypobromite. The solution is prepared from

Chlorinated Lime	...	...	...	...	1 part.
Distilled Water ..	...	...	...	...	3 parts.

Mix and filter. Fill a nitrometer with this solution, introduce 4 c.c. of urine by the funnel, washing it carefully in with a few drops of distilled water. The tube must then be turned over to mix the liquids, and the amount of nitrogen may be read off in a few minutes. A little baryta solution should be added to absorb the carbonic acid, and a few drops of methylated spirit to remove forth.—*Ph. J.*, Mar 29, '90.

To test for Antipyrin in urine, see page 230.

**Acetone Test.**—For the detection of acetone in urine, Legal adds some drops of a concentrated solution of sodium nitro-prusside and makes the liquid alkaline with caustic potash. When the red coloration first produced has disappeared, a little acetic acid is added, which in presence of acetone will produce a deep violet coloration.

## GENERAL TESTING.

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**Bromine Solution, B. P.**—2 minims to 1 ounce. This may be used as a test to distinguish between Antifebrin and Phenacetin. On treatment with the reagent Antifebrin yields crystalline acetparabromanilide. Phenacetin gives no reaction. Exalgine may be distinguished from Antifebrin and Phenacetin by its solubility (1 in 2) in cold chloroform, the two last being insoluble.—*Pharm. Zeit.*

Antipyrin gives a deep blood-red coloration with Lignor Ferri Perchloride, Phenacetin and Sulphonal only a slight brown colour.

**Chromic Acid, B. P.**, Chromic Anhydride.  $\text{CrO}_3$ .—A 3 per cent. solution may be used as a test for Phenacetin. A few grains of Phenacetin are heated with 10 c.c. of hydrochloric acid until dissolved, then allowed to cool and diluted with 10 c.c. of water. On the addition of the Chromic Acid solution a deep ruby colour is gradually produced.—*Ritters.*

**Congo Red.**—An aniline colour produced by the combination of tetrazoliphenyl with the sulphonic acids of B-Naphthol. Its behaviour towards acids and alkalis is the reverse of litmus, i. e., it is rendered blue by acids, and red by alkalis.

*Congo Paper* is impregnated with a solution of this dye, and is used where the colour of the liquid renders results obtained by litmus unsatisfactory; also in cases of cancer, in which it shows the absence of hydrochloric acid in the stomach.

**Malt Extract, Estimation of.**—The estimation of the diastasic power of Malt Extract is referred to on page 197, and is conducted as follows:—

### *No. 1. Starch Solution—*

Arrowroot ...	...	...	...	...	1 gramme.
Mix with 10 c.c. cold water and add					
Boiling water ...	...	...	...	...	100 c.c.

Boil for  $\frac{1}{2}$  hour, and when cool to 100° F. make up to 100 c.c.

### *No. 2. Iodine Solution—*

Iodine ...	...	...	...	...	0.1 gramme.
Iodide of Potassium ...	...	...	...	...	0.2 gramme.
Distilled Water ...	...	...	...	...	100 c.c.

Dissolve 0.5 gramme Malt Extract in 5 c.c. of water and add to 50 c.c. of the Starch solution, keeping the whole at a temperature of 98° to 100° F. and noting the time. After 5 minutes, and at intervals of 5 minutes or less, remove 4 c.c. of the liquid and add to 1 c.c. of the Iodine Solution in a test-tube. As soon as the diastase of the malt has converted all the starch (its own weight) into sugar, the iodine will cease to give a blue colour with the malt and starch solution. This should take 10 to 15 minutes.—*Ph. J.*, Dec. 21, '89.

For a more accurate but less simple process, see *Ph. J.*, Nov. 15, '90.

**Mayer's Re-agent for alkaloids.**—Contains

Mercuric Chloride	...	...	13.546 grammes.
Potassium Iodide	...	...	49.8 grammes.
Distilled water to	...	...	1 litre.

This gives a white precipitate with alkaloids, and is used to detect their presence.

**Methyl-Orange, Helianthin, Mandarin Orange.**—A salt of dimethyl-amido azobenzene sulphonic acid, an aniline derivative, one of the coal-tar colors. It forms a yellow solution with water, which becomes pink on addition of an acid, but it gives no indication with carbonic, hydrocyanic, arsenious, oleic, and some other acids. It is specially adapted as an indicator for estimating carbonates.

**Phenol phthalein, B. P.**—Produced by the action of phenol on phthalic anhydride. It occurs in yellowish crystals and is used as

*Tincture of Phenol phthalein, B. P.*—1 in 500 of proof spirit. A colourless liquid, which becomes of an intense red colour in presence of alkalies and becomes colourless again with excess of acid. It is not suited for ammonia, but is preferable to litmus in the estimation of hydrocyanic acid by nitrate of silver, as it is not affected by the double salt formed.

**Phenylhydrazine** (see page 310) forms a test for distinguishing between tannic and gallic acids. A small quantity of the acid is to be boiled with double its weight of the re-agent for a few minutes, and a few drops then allowed to fall into a large beaker containing water which has been rendered alkaline by caustic soda. A hydrazone of the acid is formed, which, in the case of tannic acid, shows a beautiful blue coloration, subsiding into yellow, while gallic acid gives an orange or golden yellow colour. —*J. S. C. L.*, May 31, '90.

**Potassium-Mercuric Iodide Solution, B. P., Nessler's Re-agent.**—Contains Iodide of Potassium and Mercuric Chloride with caustic soda. It is used to test for traces of ammonia, as for sewage in water, when it throws down a brown precipitate of di-mercuric ammonium iodide.

**Sonstadt's Solution.**—This consists of

Red Iodide of Mercury	...	...	3720 grains.
Iodide of Potassium	...	...	2830 grains.
Distilled Water	...	...	15½ drachms.

Sp. gr. 3.0. It is used to test the specific gravity of gems. Diamond, Zircon and Topaz sink in it, while Quartz and Rock crystal, having a lighter specific gravity, float when immersed in it. Phœnakit (Sp. gr. 3.0) neither floats nor sinks. —*M.*

**Sodium Hypobromite.** See page 312.

**Tropæoline OO.**—An aniline colour (phenylamido azobenzene sulphonic acid) used as an orange dye for silk and wool. It is also employed as a test for free acids, as it gives a yellow solution with water, which turns crimson on the addition of an acid, under the same conditions as Methyl Orange (see above).

**Solution for Hemacytometers.**—(Gower's) Sulphate of sodium 104 grains, acetic acid 1 drachm, distilled water 6 ounces. Filter.

# THE METRIC SYSTEM OF WEIGHTS AND MEASURES.

This system, which is used in conjunction with the Imperial system throughout this work, although not adopted by English practitioners and pharmacists, is generally adopted in Continental prescribing and dispensing, and exclusively in chemical analysis. In prescriptions written on this system the ingredients are usually written in decimal proportions of a gramme, the word being often omitted, and both solids and liquids are weighed.

## Metric Measures of Length.

Millimetre	0.001 of a Metre equals	0.03937 inches.
Centimetre	0.01                   "           "	0.39370           "
Decimetre	0.1                   "           "	3.93707           "
Metre	1                   "           "	39.37070           "
Decametre	10                   Metres	39.37079           "
Hectometre	100                   "           "	3937.07900           "
Kilometre	1000                   "           "	3937.07900           "

5 Kilometres are equal to 3 miles.

## Metric Measures of Weight.

Milligramme	0.001 of a Gramme equals	0.015 grains.
Centigramme	0.01                   "           "	0.154           "
Decigramme	0.1                   "           "	1.543           "
Gramme	1                   "           "	15.432           "
Decagramme	10                   Grammes	154.323           "
Hectogramme	100                   "           "	1543.234           "
Kilogramme	1000                   "           "	15432.348           "

456 Grammes equal to 1 lb.

## Comparison of English with Metric Weights and Measures.

### Lineal Measure.

1 Decimetre	=	about 4 inches.
1 Centimetre	=	" $\frac{1}{10}$ inch.
1 Millimetre	=	" $\frac{1}{25}$ "

### Weight.

1 Gramme	=	about $15\frac{3}{8}$ grains.
1 Decigramme	=	" $1\frac{1}{2}$ "
1 Centigramme	=	" $\frac{1}{8}$ "
1 Milligramme	=	" $\frac{1}{20}$ "
1 Kilogramme	=	" 2lb. 3oz (Avoir.)
1 Gram	=	" 6 centigrammes.
1 Ounce (av.)	=	" 29.4 grammes.
1 lb. (av.)	=	" 456 grammes.

### Capacity.

1 Cubic centimetre (c c.) = about 16 minims (or 1 gramme by weight).

1 Litre (1,000 c.c.) = about 1 pint  $15\frac{1}{4}$  oz.

1 Gallon =  $4\frac{1}{2}$  litres.

One gramme is approximately equivalent to

20 drops of fatty oils and tinctures.

25 drops of ethereal oils, chloroform, acetic ether, spirit of ether, and aqueous fluids.

50 drops of ether.

### GRAMMES TO ENGLISH WEIGHTS.

1 Kilog.	1000 grammes	=	35 ounces and 120 grains.
	900 .....	=	31 .....
	800 .....	=	28 .....
	700 .....	=	24 .....
	600 .....	=	21 .....
	500 .....	=	17 .....
	400 .....	=	14 .....
	300 .....	=	10 .....
	200 .....	=	7 .....
1 Hectog.	100 .....	=	3 .....
"	90 .....	=	3 .....
	80 .....	=	2 .....
	70 .....	=	2 .....
	60 .....	=	2 .....
	50 .....	=	1 .....
	40 .....	=	1 .....
	30 .....	=	1 .....
	20 .....	=	.....
1 Decag.	10 .....	=	.....
	5 .....	=	.....
	1 .....	=	.....
	.5 .....	=	.....
1 Decig.	.1 .....	=	.....
	.05 .....	=	.....
1 Centig.	.01 .....	=	.....
	.005 .....	=	.....
1 Millig.	.001 .....	=	.....



# ENGLISH WEIGHTS TO GRAMMES.

1 Pound	16 ounces	.....	=	453.592	grammes,
	15	.....	=	425.2435	"
	14	.....	=	396.8040	"
	13	.....	=	368.5435	"
	12	.....	=	340.1040	"
	11	.....	=	311.8445	"
	10	.....	=	283.495	"
	9	.....	=	255.1455	"
	8	.....	=	226.796	"
	7	.....	=	198.4465	"
	6	.....	=	170.097	"
	5	.....	=	141.7475	"
	4	.....	=	113.398	"
	3	.....	=	85.0445	"
	2	.....	=	56.699	"
	1	.....	=	28.3495	"
	$\frac{1}{2}$	.....	=	14.17475	"
	$\frac{1}{4}$	.....	=	7.087375	"
	15.432	grs.	.....	1	
	1.543	"	.....	.1, a decigramme.	
	1	grain	.....	.0648 gramme.	
	.15	"	.....	.01, a centigramme.	
	.015	"	.....	.001, a milligramme (nearly).	

# FAHRENHEIT, CENTIGRADE AND REAUMUR SCALES.

For convenience, most of the temperatures throughout the work have been given according to the Fahrenheit scale. The scales differ as follows:—

*Fahrenheit*—Freezing point, 32° ; Boiling Point, 212°.

*Centigrade*—do. 0° ; do. 100°.

*Réaumur*—do. 0° ; do. 80°.

## Rules.

To convert Fahrenheit into Centigrade—Subtract 32, multiply by 5 and divide by 9.

To convert Centigrade into Fahrenheit—Multiply by 9, divide 5, and add 32.

To convert Réaumur into Fahrenheit.—Multiply by 9, divide by 4 and add 32.

## THERAPEUTIC INDEX.

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*Only those Remedies are included which are mentioned in the body of the Work, so that in every case reference may be had through the Index for doses or methods of application.*

**Abortion.**—See **Miscarriage.**

**Acne.**—Ac. Salicyl. Ungt.; Calx Sulphurata; Calaminæ Lotio; Fer. et Quin. Cit.; Hypophosphites; Hydrarg. Perchlor. Lotio; Ichthyol (Appl.); Lanolin; Mollin; Sulphur. Hypochlor. Ungt.; Sulphur. Iodid. Ungt.; Sulphur. Troch.; Thymol. Ungt.

**Ague.**—See **Fevers**

**Albuminuria.**—Acid. Picric.; Fuschine; Chimaphila; Jaborandi; Nitrite of Amyl; Nitrites; Ozonic Ether.

**Alcoholism.**—Apomorphia; Arsenic; Camph. Monobrom.; Capsicum; Chloral; Cinchon. Ext. Liq.; Coca; Cocaine; Hydrastis; Hyoscin. Hydrobr.; Lupulin; Morphino; Phosphorus; Pierotoxin; Quinine; Strychnine; Sulpheal.

**Amenorrhœa**—See **Menstruation.**

**Anæmia.**—Arsenic; Convallaria; Ferratin; Hæmoferrum; Hæmol; Hæmozallol; Hypophosphites; Iron Preps.; Phosphates; Phosphorus; Quinine, and combinations; Ferri et Magnesi Sulphas.

**Anæsthetics**—

*By Inhalation.*—A. C. E.; Æther; Æthyl Brom.; Amyl Hydride; Carbon. Tetrachl.; Chloroform; Cocaine and Chlorof.; Chloramyl; Ethiden. Dichlor.; Hydramyl; Methylene.

*Local*—Acid. Carbolic.; Æther; Æthyl Brom.; Æthyl. Chloridum; Amyl Hydride; Anæsth. Ether Comp.; Anestile.; Engenolacetamid; Antipyrin (Hypod.); Boldoin (?); Camphor. Phenol; Coca; Cocaine; Coryl; Erythrophlaine (?); Formanilide; Methyl Chloride; Eucaine; Holocaine; Nervanin.

**Aneurism.**—Aconite; Amyl Nitrite; Digitalis; Ergotine; Nitroglycerine; Potass. Iodid.; Morphine and Atropine Tablets.

**Angina Pectoris.**—Allyl Tribrom.; Amyl Nitris; Isobutyl Nitris; Antipyrin (Hypod.); Arsenic; Camphoric Acid; Morphino (Hypod.); Methylal; Nitroglycerine; Pyridine; Sodii Nitris.

**Anthelmintics.**—See **Worms.**

**Anthrax.**—See **Carbuncles.**

**Antipyretics.**—Pil. Ac. Carbolic.; Iodo-Salicylic Acid; Ammonol; Antifibrin; Antipyrin; Antithermin; Apolyrin; Benzanilido; Benzozol; Chinoline; Citrophone; Creosote; Grainol; Euphorine; Exalgine; Formanilide; Hydracetin; Kairin; Methoectin; Neurodin; Phenacetin;

Phenocol; Potas. Citras; Pyrocin; Pyrantin; Quebracho; Quinine; Resorcin; Salicin; Salol; Sodii Paracresotates; Thermifugin; Guaiacol Carboxylic Acid; Thalline; Tussol; Kryofin.

**Antiseptics.**—Acid. Boric.; Acid. Carbolic; Boroglyceride; Tribromophenol; Trichlorphenol; Ao. Cresylic; Ac. Salicyl; Ammon. Persulph.; Camph. Salicyl.; Cavaerol; Iodo-Salicylic Acid; Ajowan; Alum. Acet. Liq.; Alum. Sulphite; Pyoktanin (Blue and Yellow); Arbutin; Aristol; Aseptol; Camphor; Camphor Naphthol; Camphor Phenol; Camphor Salicylas; Camphor Salol; Chinoline; Chavicol; Chinosol; Chloratol; Chloral; Alum.; Boroform; Antiseptol.; Asaprol; Bismuthol; Bism. Subgallas; Bism. Sulphis; Bismuthol; Borsaly; Borine; Creasote; Oresin; Guaiacol; Creolin; Eucalyptus; Eugenol; Formic Aldehyde; Ganthieria Oleum; Hydrarg. Perchlor.; Hydrarg. Cyanid.; Hydr. Zinc Cyanid.; Iodic Hydrarg.; Iodoform; Iodol; Iolum; Iodozone; Jatrol; Jysol; Menthol; Menthae Oleum; Microcidine; Naphthalene; Naphthol; Potas. Permang.; Resorcin; Sal Alembroth; Saligeniu Salol; Sodii Benzoes; Sodii Sulphis; Sodii Sulphocarb.; Sozoiodol; Sulphaminol; Terebene; Thiocamf; Thioform; Thalline; Thy nol; Trikresol; Zinc Chlorid; Zinc Sulphis; Zinc Sulphocarb.; Guaiacol Carboxylic Acid; Phenylhydrazine Hydrochlor; Phenosalyl; Tolpyrine; Tolysal; Bismuth Iodopyrogallate; Cresyl.

**Iodoform Substitutes.**—Aristol (46 p. c. Iodine); Airol; Betol; Cinchonine Iodosulph.; Carvaerol Iodide; Di-iodoform; Europhen; Iodophenin; Dermatol; Hydronaphthol; Loretin; Thiophen Dioxide, Iodol (90 p. c. Iodine); Iodo Salicylic Acid (50 p. c. Iodine); Di-iodo Salicylic Acid (66 p. c. Iodine); Naphthalin; Salol; Sozoiodol (54 p. c. Iodine); Sulphaminol; Thio-resorcin; Argeutol; Iodoformal; Iodoformogen; Resorcinal; Sanoform; Thymoform.

**Aperients.**—See Constipation.

**Asthma.**—Ethyl Iod.; Ammon. Chlor. Vapor; Amyl Nitris; Anemonin; Arsenical Cigarettes; Caffeine; Cannabis; Chloral; Chloroform; Coca; Cocaine; Codeine; Colchicin; Delphine; Drosera; Euphorbia Pilulifera; Grindelia; Hyoscino; Jaborandi; Nitroglycerino; Pilocarpine; Potass. Cobalto-Nitris; Pini Pumil Oleum; Pulv. Stramon. Co.; Pyridine; Quebracho; Sodii Nitris; Spirene; Stramonium; Heroin.

**Baldness**—Chloral; Camph. Linim. Co.; Chlorof. Linim.; Jaborandi.

**Bed Sores.**—Collodium; Glycerine; Glyc. Ac. Tannic; Iodoform Ung.; Ung. Zinc Oxidi.; Pelliculino.

**Biliousness**—Ammon. Chlor.; Ammon. Phosph.; Berberis; Bhawehao; Boldo; Eonymin; Hydrastis; Iridin; Juglandin; Leptandrin; Liver Granules; Podophyllin; Seidlitz Powder; Soda, Efferv. Preps. of; Stillingia.

**Bladder—**

**Catarrh of, and Cystitis.**—Arbutin; Betol; Benzoes; Chekan; Chl-naphila; Creolin; Collinsonia; Hibiscus; Eucalyptus; Fabia Imbricata; Formin; Gokhru; Hydrastis; Naphthalene; Pyoktanin, blue; Triticum.

**Irritability of.**—Belladonna; Cannabis; Chloral; Morphine.

**Boils and Carbuncles.**—Inject. Acid Carbol. ; Aristol ; Arsenic ; Bellad. Glys. ; Calx. Sulphurata ; Camph. Carbol. ; Collodium ; Ferri Perehlor. ; Hypophosphites ; Sulphates, Syrup of ; Sulphides ; Sulphuris Troch.

**Brain, Softening of.**—Hypophosphites ; Iron Preps. ; Morrhuæ Ol. ; Phosphorus.

**Breasts**—See **Mammæ.**

**Bright's Disease.**—Antipyrin ; Apocynum ; Alkalies ; Cannabis ; Digitalin ; Hydrastis ; Jaborandi ; Nitroglycerine ; Pilocarpine.

**Bronchitis.**—Agarie ; Ammon. Acet. Liq. ; Ammon. Chlor. ; Anemonin ; Apomorphine ; Bals. Gurjun. ; Camphoric Acid ; Chekan ; Conine ; Creolin ; Eucalyptus ; Eucalyptol ; Grindelia ; Ipecae. ; Morphine ; Morrhuæ Ol. ; Piscidia ; Pulsatilla ; Tar ; Inhalations of Carbol. Acid, Creasote, Iodine, Ammon. Chlor. ; Terebene ; Terpin Hydras ; Yerba Santa ; Euphorbia Pilulifera ; Drosera ; Phenacetin ; Benzoiodhydrium ; Dionin ; Heroin.

**Fruises and Sprains.**—Salicylic Suet ; Ammon. Chlor. (Lotio) ; Hamamelis ; Hazeline ; Hydrastis Tinet.

**Burns and Scalds.**—Acid. Boric ; Lanoercolin ; Cocaine Cerat ; Gossypia ; Iodoform ; Thymol Ung. ; Vaseline ; Lanolin ; Mollin ; Zinc. Oleat. ; Zinc. Ung. ; Aristol ; Glutol.

**Calculi**—

**Biliary.**—Æther Spt. ; Amyl Nit. ; Anæsthetics ; Chloral ; Morphine ; Ferri Succi ; Succi ; Nitroglycerine.

**Urinary**—Ammon. Phosph. ; Ammon. Benz. ; Antipyrin ; Calc. Hippur ; Collinsonia ; Lithium Salts ; Sod. Benz. ; Sod. Hippur ; Piperazidine ; Alkalies.

**Cancer.**—Arsenic ; Condurango ; Chloral ; Morphine ; Phenacetin (as analgeth) ; Terebinth. Chia.—*Locally.*—Caustics ; Iodoform ; Morphine Oleat ; Ac. Chromic ; Quinine Salicyl. ; Zinc. Chlorid.

**Carbuncles.**—See **Boils.**

**Cardiac Tonics.**—Adonidin ; Apocynum ; Caffeine ; Cardine ; Convallaria ; Coronillin ; Digitalin ; Erythrophloeum ; Strychnine ; Strophanthus ; Ouabain ; Sparteine.

**Cataract.**—See **Eye Diseases.**

**Catarrh, Bronchial.**—Aldehyde (Vapor) ; Am. Chlor. (Vapor) ; Euphorb. Pilulif. ; Pulsatilla ; Sp. Æth. Nit.

**Catarrh, Gastro-Intestinal.**—Bismuth Preparations ; Betol ; Collinsonia ; Caffeine ; Eucalyptus ; Glycozone ; Hydrastis.

**Catarrh, Nasal.**—Antitetraizin ; Carbollised Salts ; Antipyrin ; Bism. Snuff ; Camphor ; Capsicum Snuff ; Carbon. Tetrachl. Vapor ; Cocaine (Appl.) ; Iodoform Snuff ; Eucalyptus ; Camphor ; Menthol Vapor ; Menth. Snuff ; Nosophen ; Mygranin ; Sod. Salicyl. Snuff ; Andrographis ; Salacetol ; Antipyrin.

**Catarrh, Uterine.**—Camph. Carbol. Acid ; Iodoform ; Phnub. Subacet. Glys. ; Zinc. Sulph.

**Catarrh, Vesical.**—See **Bladder, Catarrh of.**

**Caustics.**—Alum. Exsicc.; Auri et Sodii Chlor.; Creasote; Acid. Arsen.; Ac. Chromic; Hydrarg. Perchlor.; Hydr. Nitr. Liq. Acid.; Pastes: Potass. Permang.; Sodii Ethylatis Liq.; Zinci Chlorid.; Trichloroacetic Acid.

**Chlorosis.**—Iron Preparations. See also **Anæmia.**

**Cholera.**—Carbol. Iodine; Cresalol; Ajowan; Benzbetal; Bism. Tribromophenol; Cotoin (Hypod.); Creasote; Guaiacol; Chlorof. et Morph. Tinct.; Camphor; Hydrarg. Perchlor.; Morphine; Paracotoin; Quin. Hydrochl. Carbamidum; Salol; Resorcin; Cupri Arsenas.

**Chorea.**—Antipyrin; Apomorphine; Arsenic; Ca'c. Chlorid.; Chloral; Conine; Curara; Ergot.; Fer. Brom. et Phosph.; Hyoscyamine; Inula; Jatamansi; Morrhue Ol.; Phosphorus; Physostigma and Eserine; Strychnine; Valerianates; Zinci Brom.; Sulphonal.

**Colic.**—Ajowan; Æther; Amyl. Valerianas; Camphor; Chloroform; Chlorodyne; Menth. Ol.; Morphine; Nigella; Ol. Cajeputi.

**Collapse.**—Æther (Hypod.); Spt. Æther; Sp. Am. Arom.; Ammon. (Inhal.); Amyl Nitris.

**Conjunctivitis.**—See **Eye Diseases.**

**Constipation.**—Acalypha; Apocynum; Baptisia; Bellad., Aloin, and Strych. Pills; Berberis Aquifolium; Cascara Sagrada; Caffein. Chloral; Convallarin; Cereas; Elaterium; Emblic; Eseridine; Glycerine Inject. and Suppos.; Hydrarg. Subchlor.; Iridin; Juglandin; Podophyllin; Frangula; Menyanthus; Ricin. Ol. Mist.; Seidlitz Powders; Senna Preps.; Sodium, Efferv. Preps. of; Mag. Sulph. Efferv.; Sulphur. Troch.; Sodii Sulphovinas; Kaladana; Turpeth; Acalypha Kaladana.

**Convalescence.**—Alstouia; Meat Preparations; Cinchona; Easton's Syrup; Quinine; Morrhue Oleum; Malt Extract; Kariyat.

**Convulsions.**—Antipyrin; Allyl Tribrom.; Chloral Suppos.; Cinchona Preps.; Bromides; Belladonna; Morphine; Conine; Hyoscyamine; Sulphonal; Jatamansi; Valerianates.

**Cornea, Diseases of.**—See **Eye Diseases.**

**Corns and Warts.**—Acid. Chromicum; Collod. Salicyl.; Collod. Callosum Anacardium; Cocaine; Carbol. Acid; Iodi Lium.; Papain; Onprie Oleas.

**Coryza.**—See **Catarrh, Nasal.**

**Cough.**—Acalypha Indica; Ac. Lactic.; Bals. Gurjun.; Belladon. and Ipecac Pills; Camphor Tinct. Co.; Chlorodyne; Codeine; Conine; Gelsemium; Creasote Vapor; Euphorb. Pilul.; Hibiscus; Hypnal; Helenin; Morphine; Ipecac; Narceine; Picis Pil.; Piscidia; Terpin Hydras; Terebeue; Terpinol; Adhatoda.

**Croup.**—Acalypha; Papain.

**Cystitis.**—See **Bladder.**

**Debility.**—Arsenic; Bondue; Phosphates; Hypophosphites; Malt; Quinine and Cinchona Preps.; Easton's Syrup; Iron Preps.; Kariyat; Morrhue Oleum; Strychnine; Phosphorus.

**Delirium Tremens.**—See Alcoholism.

**Diabetes**—Antipyrin; Arsen. Broni. Liq.; Codeine; Couvallaria; Crea ote; Guaiacol; Jaborandi; Thymol; Jambul; Sodli Arsenias; Lithia Water and Sod. Arsen.; Uranii Nitras; Morphine; Phosphorus; Saccharin; Rhus Glabra; Sulphonal.

**Diarrhœa.**—Abies Canadensis; Acid. Carbolie; Acid. Lactic; Adansonie; Ajowan; Agaric; Alstonia; Benzbetal; Bism. Salicylas; Bism. Loretinas; Calcii Salicylas; Cannabis; Chlorodyne; Cotoin; Eucalypt. Gummi; Eucalyptol; Ferri Pernit. Liq.; Fer. Salicylas; Holarrhena; Kariyat; Ipecac. Co Pulv.; Leptandrin; Morphine; Mudar; Naphthalin; Naphthol; Podophyllin; Ricin. Oleum; Quinina Salicyl; Resorcin; Saffrol; Sodii Phosphas; Bael; Cupri Arsenas; Bisinal; Bengal Kino; Ispaghul; Lopez Root.

**Diphtheria.**—Liq. Magnesie Boratis; Glyc. Ac. Carbol.; Carbol. Iodine; Ac. Lactic (spray); Ac. Salicyl (gargle); Choline (gargle); Inula (appl.); Calx Sulphurat.; Eucalypti Ol. Vapor; Ferri. Perchlor.; Hydroquinone (appl.); Papain (appl.); Pepsin Glyc. (spray); Pilocarpine; Salactol.; Sod. Hyposulph.; Sodil Chloras; Resorcin (appl.); Sodii Benzoas (spray); Iodol (appl.); Ozonic Ether; Arisol (insuffl.); Antidiphtherin; Antitoxin; Mag. Sulphis.

**Dipsomania.**—See Alcoholism.

**Dropsy, Cardiac.**—Adonis; Apocynum; Cactus. Grandiflor; Caffeine; Convallaria; Delphine; Digitalin; Erythrophleum; Gallium; Strophanthus;

**Dropsy, Renal.**—Ammon. Benz.; Bryonia; Apocynum; Delphine; Pil. Hydrarg.; Pilocarpine; Kaladana; Sodii Iodid.

**Dysentery.**—Abies Canadensis; Adansonie; Alstonia; Benzbetal; Coto; Cannabis; Eucalypti Gummi; Guarana; Hamatoxylum; Hamamelis; Holarrhena; Hydrocotyle Kariyat; Granati Cort.; Hydrarg. Perchlor.; Ipecac; Ipecac. sine Emetin; Pulv. Ipecac. Co; Morphine; Naphthalin; Terebena Pura; Rhus Glabra; Mudar; Bael; Cupri Arsenas; Euphorbia.

**Dysmenorrhœa**—See Menstruation

**Dyspepsia.**—Ac. Carbol.; Ajowan; Bismuth Preps.; Boldo; Coca; Creasoti Pil.; Capsicum Preps.; Drosera; Emblic; Hydrastis; Leptandrin; Malt; Menispermis; Oregan.; Pancreas Preps.; Papaw Juice; Papain; Pepsin; Podophyllin; Quinine; Rumlein; Salicin; Sodii et Potass. Bicarb.; Sod. Sulphocarb. Stillingia; Sodii Taurochol.; Sodii Nitrils; Calcii Saccharas; Taku Diastase

**Dyspnœa.**—Acid. Carbolie.; Æthyl Iodid.; Ætheris Spt.; Amyl Nitris; Ozonic Ether; Nitroglycerine; Quebracho; Aspidospermine; Pyridine; Potass. Cobalto-Nitris; Sodii Nitris.

**Ear, Diseases of**—

*Discharges from*—Glyc. Ac. Tannic; Aristol.; Bism. Insuffl.; Alum Insuffl.; Liq. Car. Deterg.; Boric. Acid. Insuffl.; Iodof. Wool; Iodof. Insuffl.

*Earache.*—Cocaine; Atropine; Chloroform (vapor); Morphine Oleatum; Delphine.

*Drafness.*—Pilocarpine (Hypod.).



**Eczema.**—Acid. Boric.; Acid. Picric.; Ac. Salicylic; Anthrarobin; Aristol.; Arsenic; Bismuthi Lotio et Ungt.; Lotio Calaminæ; Huilo do Cade; Ichthyol.; Glyc. Bism. Nit.; Kaolin Ung.; Lanolin; Mollin; Naphthol.; Nosophen; Plumbi Stearas; Tar; Resorein; Thio-resorein; Thiol; Thymol.; Tumenol.; Zinc Oxide Preps.; Zinc. Oleat.; Alkaline Lotions; Eugenol Oint.; Gaulther Oint.; Ung. Acid. Gynocard.; Chrysarobin Oxidised; Jatrophi Acid

**Elephantiasis.**—Calx Sulphurat. (?) ; Easton's Syrup.

**Emetics.**—Acalipha; Apocynum; Apocodeine; Apomorph.; Baptisia; Alum; Ipecac.; Zinc. Acet.; Zinc. Sulphas; Mudar; Tylophora Asmatica.

**Enteric Fever.**—See Fever, Typhoid.

**Epilepsy.**—Æthylene Bromid.; Potass. Osmate; Amyleni Hydras; Antifebrin; Apomorphine; Arsen. Brom. Jiq.; Auri Brom.; Camphor Monobrom.; Conine; Bromides; Arsenic Preps.; Iron Salts; Jatamansi; Atropino; Bromal; Brucine; Cannabis; Ozonic Ether; Nitroglycerins; Rubid. Ammon. Brom.; Simulo; Sodii Brom. et Nitris; Strontii Bromid.; Strychnine; Valerianates; Zinci Brom., Citras, Lactas, Sulphas; Sulphonal.

**Erysipelas.**—Ac. Boric.; Inject. Ac. Carbol.; Aconite; Ac. Picric; Anthrarobin; Antifebrin; Creasoti et Amyli Pulv.; Belladonna; Digitalin; Ergot; Ferri Perchl.; Lotio Calamin.; Cocain. Cerat.; Collodium; Iodino Preps.; Potass. Silicas.

**Erythema.**—Amylli Glycerinum; Kaolin; Vaseline; Zinc. Oxid.; Zinci Ungt.

**Eye, Diseases of—**

*Tinea.*—Abrus; Ac. Boric.; Ung. Hyd. Ox. Flav.; Ung. Iodof.; Aristol.

*Ophthalmia and Conjunctivitis.*—Acid. Boric.; Trichlorphenol; Boroglyceride; Iodol; Oleat. Hydrarg. cum Morph.; Ung. Hydr. Ox. Flav.; Hydroquinone; Resorein; Zinc. Sulph. (Lotio).

*Cataract.*—Cineraria.

*Corneal Ulcers.*—Arbus; Pyoktanin (yellow); Atropin; Belladonna-Cocaine; Daturino; Duboisino; Eserius; Hydroquinone; Pilocarpine; Ung. Hydr. Ox. Flav.; Hydrarg. Subchlor.

*Iritis.*—Atropine; Belladonna; Duboisine; Colchicin; Iodine; Hydrarg. Perchlor.

*Pupil, Contractors of.*—Jaborandi; Pilocarpine; Morphine; Physostigma; Eserine.

*Pupil, Dilators of.*—Atropine; Belladonna; Cocaine; Daturine; Duboisino; Homatropine; Hyoscyamine; Hyoscine.

*Locally Dilate; Internally Contract.*—Gelsemino; Muscarine.

**Fainting.**—See Collapse.

**Fevers—**

*Acute, Remittent, and Intermittent.*—Ammon. Picras; Alstonia Constricta; Amyl Nitris; Andrographis; Antifebrin; Antipyrin; Apium; Arsenic; Azadirachta; Benzanilido; Berberis; Bondne; Calliandra Houstoni; Chinoline; Cinch. Alkaloids; Crenoto; Guaiacol; Acid. Salicylic; Salicin;



Eucalypt. Glob.; Hydrastis; Quinine; Piperine; Warburg's Tincture; Kairine; Pambotano; Thallin; Thermifugin; Phenacetin; Hymenodictyon; Hyperchinain (?); Lantanine; Rhus Glabra; Sodii Paracresot; Euphorine; Mndar.

**Common.**—See **Antipyretics.**

**Typhoid.**—Mist. Ac. Carbol.; Antifebrin; Chinoline; Salicilates; Ammon. Carb.; Cinchona Alkaloids; Eucalypt. Glob.; Guaiacol Carbonas; Eucalyptol; Kairine; Naphthol; Phenacetin; Hydrarg.; Naphthol-Acct.; Thallin; Thymol; Cupri Arsenas.

**Typhus.**—Baptisia; Belladonna; Cinchona Alkaloids; Eucalypt. Glob.; Hydrastis; Kairine; Phenacetin; Iodopyrin.

**Gastralgia.**—Allyl Tribrom.; Ether Spt.; Cannabis; Coca; Codeine; Bismuth Preps; Chloroform; Tinct. Chlorof. et Morph.; Creasote; Manganes. Oxide; Iepsin; Hydrocyanic Acid.

**Gastric Catarrh.**—See **Catarrh.**

**Glands, Enlarged.**—Calc. Chlor.; Calx Sulph.; Iodides; Iron Salts; Iodoform; Iodine (locally and internally); Hydrarg. Oleat.; Sodii Iodid.

**Gleet.**—See **Gonorrhœa.**

**Goitre.**—Ac. Fluoric; Ac. Osmic. (Hypod.)

**Gonorrhœa.**—Acid Trichloroacetic; Gurjunæ Bals.; Boldo.; Chimaphila; Chinoline (Inject.); Cocaine (Inject.); Gutol; Creolin; Gallobromal; Gokhrn; Iron Salts; Potash Preps.; Salines; Ol. Santal; Bougies; Belladonna; Ol. Eucalypt.; Hydrastis; Iodoform; Potass. Permang.; Sodii Silicat; Oxy-fidid. Bism.; Zinci Chlor.; Zinci Sulphas; Zinc. Sulphocarb.; Zinci Permang.; Zinci Subgallas; Kava-Kava; Thalline; Resorcin; Salix Nigra; Rhus Glabra; Aristol (inj. and bougies); Methylenic Blue; Argentol; Proctargol; Argent. Sulpocarb.; Dextroform; Lysidine; Gonerol.

**Gout.**—Ammon. Benz.; Caffein. Triiod.; Calc. Hippur.; Colchicin; Goto; Lithium Salts; Manganese Salts; Benzozates; Hippurates; Pinus Pumil. (Oil and Baths); Pot. Iod.; Pot. Citras; Bromal; Kava-Kava; Siegesbeckia; Morphine (Hypod.); Sodii Tanrocholas; Strontii Salicylas; Colchi Sal; Ureal.

**Gums, Inflamed.**—Alum; Acid Carbolic; Tinct. Iodi; Tinct. Aconite; Potas. Chlor. Tablets and Pastils; Sod. Chloras.

**Hæmatemesis.**—Alum; Ergot; Hamamelis; Ferric Salts.

**Hæmaturia.**—See **Urine.**

**Hæmoptysis.**—Acid. Pyrogallc.; Abies; Agaric; Antipyrin; Atropine (Hypod.); Acid. Sclerotic.; Alum; Digitalin; Ergot; Hamamelis; Hamatexylon; Potass. Succinus.

**Hæmorrhage—**

**Internal.**—Brionia; Acid. Pyrogall.; Acid. Sclerotic; Gum. Rubr.; Ferro-Alumen; Hamamelis; Ferric Salts; Ustilago.

**External.**—Bryania; Collodium Stypticum; Collod. Hæmostat.; Alum; Styptic Wool and Lint; Gum. Rub.; Fer. Pershl.; Ferro-Alumen; Hamamelis; Liq. Zinci Chlor.

**Hæmorrhoids.**—*Abies Canadensis*; Antipyrin Suppos.; *Aristol*; *Bism. Ungt*; *Conii Ungt.*; *Cascara Sagrada*; *Hamamelis*; *Frangula*; *Chrysa-robin*; *Senna*; *Sulphuris Troch.*

**Headache—**

*Nervous.*—*Æthyl Brom.* (Inhal.); Antipyrin; *Anri Brom.*; *Butyl-Chloral Caffeiue*; *Caunabis*; *Ammon. Spt. Arom.*; *Arsenic*; *Valerianates*; *Chloral Camphor*; *Guarana*; *Iron Preps.*; *Jatamansi*; *Nitroglycerine*; *Pheuacetin*; *Zinci Lactas*; *Zinci Oxid.*; *Salacetol*; Antipyrin.

*Bilious.*—Antipyrin; *Euonymin*; *Guarana*; *Hydrastis*; *Iridin*; *Juglans. Leptandrin*; *Podophyllin*; *Efferv. Preps. of Sodium*; *Mag. Sulph. Efferv.*

*Inflammatory.*—*Ammon. Chlor.*; *Hydrarg. Sub Chlor.*; *Salicylates.*

**Heart Diseases.—See Cardiac Tonics.**

**Herpes and Shingles.**—*Anod. Amyl. Colloid.*; *Bism. Ung.*; *Cocain Cerat.*; *Glyc. Amyli*; *Collodium*; *Hydrarg. Ammon. Ung.*; *Menthol*; *Pongam Ol.*; *Vaseline*; *Zinci Oleas and Ungt.*; *Salines and Saline Aperients.*

**Hiccough.**—*Apomorphine*; *Spt. Ætheris*; *Camphor*; *Chloral*; *Amyl Nitris*; *Sodii Bicarb.*; *Spt. Chlorof*; *Morphine.*

**Hydrophobia.**—*Autitoxin Rabies*; *Cocaine*; *Curare*; *Chloral*; *Cannabis*; *Morphine*; *Nitroglycerine*; *Physostigmine*; *Pilocarpine*; *Anæsthetics.*

**Hysteria.**—*Allyl Tribrom*; *Caffeiue. Valer.*; *Camph. Monobr.*; *Cannabis*; *Bromides*; *Iron Salts*; *Jatamansi*; *Phosphorus*; *Pulsatilla*; *Quinine*; *Strychnine*; *Valerianates*; *Zinci Salts.*

**Impotence.**—*Arsenic*; *Canuabis*; *Coca*; *Cocaine*; *Damiana*; *Ergot*; *Ferri Perchlor.*; *Gokhru*; *Phosphorus*; *Strychnine*; *Zinci Phosphid.*

**Incontinence.—See Urine.**

**Indigestion.—See Dyspepsia.**

**Influenza.—See Catarrh, Nasal.**

**Insect Bites, &c.**—*Aealyha*; *Lotio Ae. Carbol*; *Chloroform*; *Cocaine*; *Liq. Ammoniac*; *Sodii Bicarb.*; *Ipecac. Pontiees (Scorpion)*; *Thymol*; *Thymolite. Tluet.*; *Ammon. Co. See also Snake-bites.*

**Insomnia.**—*Acetal*; *Acetophenone*; *Amyleul Hydras*; Antipyrin; *Bol-doin (?) Bromal*; *Bromaline*; *Camph. Monobr.*; *Cannabis Preps.*; *Chloral*; *Chloral-Urethane*; *Chloralose*; *Chloralamide*; *Codeine*; *Butyl-Chloral*; *Hyos-cyminine*; *Hypnal*; *Lupulin*; *Morphine*; *Metaldehyde*; *Methylal*; *Narceine*; *Paraldehyde*; *Papaverine*; *Piscidia*; *Bromides*; *Phenacetin*; *Pnmilio Baths*; *Somnal*; *Sulphonal*; *Tetronal*; *Trioual*; *Uralium*; *Urethane.*

**Iritis.—See Eye Diseases.**

**Itch.—See Parasitic Skin Diseases.**

**Jaundice.**—*Ammon. Chlor.*; *Benzoates*; *Euonymu*; *Gallium*; *Hydrarg. Subchlor.*; *Hydrastis*; *Iridin*; *Ferri Succinas*; *Manganes. Oxid. et Sulph*; *Podophyllin*; *Senna*; *Efferv. Sodium Preps.*; *Stillingia.*

**Laryngitis.**—Acid Sulphanilicum; Aconite; Æthyl Iod.; Ammon. Act. Liq.; Acid Lactic (locally); Alumol; Bism. et Morph. Insuff.; Creasote (Inhal.). Hydrarg. Subchlor.; Menthol (locally); Pini Sylv. Vapor; Pulsatilla.

**Leprosy.**—Anacardium; Bals. Gurjuu; Bhawchee; Gynocardia Oleum; Hydnocarpus; Mudar.

**Leucoderma.**—Bals. Gurjun; Bhawchee; Gynocardia Oleum.

**Leucorrhœa.**—Abies Canadensis; Aristol (pessaries); Boric Acid; Lotion; Alum; Hydrastis; Pulsatilla; Pot. Permang.; Sodii Silicas; Zinci Sulphocarb.

*Internally.*—Iron Salts; Mineral Acids; Vegetable Tonics.

**Liver. Congestion and Abscess of.**—Ammon. Chlorid., with Tarax and Acid. Nit. Mur. Dil.; Podophyllin; Hydrarg. Subchlor.

**Locomotor Ataxy.**—See Paralysis.

**Lumbago.**—Antipyrin (Hypod.); Atrop. Linim.; Bellad. Linim.; Capsicum; Colchicin; Morphine (Hypod.); Capsici Tinct. Æth. and Linim.; Menthol Plaster; Pleis Empl.; Ung. Veratrina.

**Lupus.**—Acid Cinnamicum. Acid. Lactic (pigment); Camph. Salicyl; Aristol; Calaminæ Lotion; Hydroxylamine; Phosphorus; Ol. Morrhuæ; Ol. Gynocard.; Pot. Iod. and Hydrarg. Perchlor; Camph. Iodoform; Caustic Paste; Zinc. Ungt.; Thiosinamine.

### **Mammæ, Affections of—**

*Inflammation.*—Belladonna; Phytolacca.

*Milk to Increase.*—Curas; Acid. Lactic. Jaborandi; Pilocarpine; Malt Extract.

*Milk to Arrest.*—Agaric; Antipyrin; Atropine; Belladonna; Conium; Ergot; Saline Purgatives.

*Sore Nipples.*—Glyc. Ac. Tannic; Cocain. Hydroch.; Collod. Flex.; Hydrastis; Styptic Colloid.

**Mania.**—Cannabis; Conine; Atropine; Bromides; Chloral; Daturine; Digitalis; Duboisine; Hyoscyamine; Hyoscine; Gelsemine; Morphine; Paraldehyde; Sulphonal.

**Measles.**—Aconite; Liq. Am. Acet.; Sp. Æth. Nitr.; Ipecac.

### **Menstruation, Disorders of—**

*Amenorrhœa.*—Aletis; Apol; Caulophyllin; Ergot; Hydrastis; Gossypil Rad.; Iron Salts; Manganese Salts; Pot. Permang.; Pulsatilla; Sautouin.

*Dysmenorrhœa.*—Aletis; Antipyrin; Apol; Anemomlin; Butylchloral; Cannabis; Carbon Tetrachl. Vapor; Gossypil Rad.; Pulsatilla; Hydrastis; Salix Nigra; Viburnum; Valerianates; Jatamansl.

*Menorrhagia.*—Acid. Sclerotic.; Bromides; Cannabls; Ergot; Ferro-Alumen; Hamamelis; Hydrastis; Iron.

**Miscarriage.**—Aletis; Caulophyllin; Codeine; Hydrastis; Morphine; Viburnum.

**Mouth Affections.**—Abies Canadensis; Acid. Boric.; Glyc. Acid. Carbol. Asepsol; Calc. Permang.; Chlorof. Aq.; Cocaine; Alum; Pot. Chlor. Pastils and Tablets.

**Nævi.**—Collodium; Pastes, Caustic; Sod. Ethyl. Liq.; Zinc Chloride.

**Nasal Catarrh.**—See Catarrh.

**Nephritis.**—Gokhrû; Ol. Santa'; Triticum.

**Nervous Debility and Nervousness.**—Coca; Acid. Phosph. Dil. Ammon. Brom.; Camphor; Chloral; Gokhrû; Phosphorus; Piscidia; Quinin Preps.; Salicin; Strychnine; Sulphonal; Zinci Valer.

**Neuralgia.**—Acid Osmic. (Hypod.); Ac. Iodosalicyl.; Agathin Antipyrin; Antitetraizin; Allyl Tribrom.; Ammon. Chlor.; Monobrom. acetanilid; Apium; Butyl-Chloral Hydras; Carbon. Tetrachl.; (ext.) Chinoline; Cannabis; Cinchonidine; Cit-ophene; Colchicin; Conine Lactophenin; Malakiu; Methlene Blue; Gelsemium; Hyoscyamine; Exalgine-Phenacetin; Enphorine; Nitroglycerine; Phosphorus; Quinine; Tonga Bromides; Salicylates; Tolypyrine; Tolsal; Salacetol; Chlorof. Aconiti Anilipyrin; Quinine Glycerophosph.

**Locally.**—Aconitine; Chlorof. Aconit.; Cocaine; Chloral Camp; Delphin. Ung.; Menthol Preps.; Morph. Oleat; Oleanodyne; Ung. Veratrine.

**Night Sweats.**—Agaric; Atropine; Belladonna; Camphoric Acid Chloral; Calcii Chlor.; Cotoin; Homatropine; Pulv. Ipecac. Co.; Hypo phosphites; Iron Salts; Jaborandi; Pilocarpine; Muscarine; Picrotoxin Quinine; Sulphonal; Zinci Oxid.; Potass. Telluraz.

**Nipples, Sore.**—See Mammæ.

**Obesity.**—Fucus Vesiculosus; Sod. Taurochlor.; Alkalies.

**Ophthalmia.**—See Eye Diseases.

**Orcbitis.**—Anemomin; Pulsatilla; Phytolacca; Glyc. Bellad.

**Otorrhœa.**—See Ear, Discharge from.

**Ozæna.**—Carbol. Iodine; Aldehydi Vapor; Aristol; Creasote; Acid Boric. Alum; Alum. Acet. Liq.; Eucalypt. Glob.; Gallol; Hydrocotyle; Iodoform Potass. Permang.; Sanitas; Sod. Silicas; Tannal; Thymol; Sozoiodol; Zinc Sulph. and Sulphocarb.

**Paralysis**—

**Agitans.**—Hypophosphites; Hyoscyamus; Iron Eserine; Physostigma Phosphorus; Strychnine.

**Diphtheritic.**—Iron; Fer. Iodid.; Pepsin.

**Locomotor Ataxy.**—Antipyrin; Ol. Morrhuæ; Phosphorus; Pilocarpine Physostigma.

**Parasitic Skin Diseases.** Antinonuin; Iod. Phenol; Ung. Ac. Carbol. Amacardium; Anthracin; Araroba; Chrysarobin; Aristol; Calc. Sulph. Lotio; Creasote. Ungt.; Hydrag. Oleat; Losophan; Picrotoxin; Sod. Iodo-sulph.; Thymol; Papaw; Pongam. Ol.; Rhinocanthus; Siegesbeckia.

**Parasites, Intestinal.**—See Worms.

**Pediculi.**—Creolin; Hydrarg. Oleat.; Hydrarg. Perchlor.; Hydrarg. Ammon.; Hydr. Ox. Rub.; Naphthalin; Naphthol; Sapo Viridis; Staphisagaria; Sulphur; Lotio Calc. Sulph.

**Peritonitis.**—Antifebrin; Antipyrin; Kairine; Aconite; Belladonna; Digitalin.

**Perspiration.—**

*Excessive.*—Abies; Ac. Salicyl. cum Talco; Kaolin; Zinc. Oleat; Thymolite; Naphthol; Zinc. Oxid.—*Internally.*—Acid. Phosp. dil.; Atropine; Bellad.; Ergot; Jaborandi; Pierotoxin; Quinine.

*Fetid.*—Ac. Boric.; Ac. Carbolic.; Ac. Salicylic.; Liq. Alum. Acet.; Thymolite; Zinc. Oleat.

**Phthisis.**

*Inhalations.*—Acetophenone; Ac. Hydroflnor.; Aniline; Creasote; Menthol; Terchene; Iodine; Ipecac. (spray)

*Internally.*—Acid. Cinnamicum; Acid. Phenylacetic.; Acid. Phenylpropionic; Aniline Camph.; Arsenic; Caffeine; Calcium Salts; Chlor.; Phenol; Codeine; Creasote; Creasote Calcium Hydrochlorophos.; Creasot. Carbonas; Guaiacol Carbonas; Drosera; Eucalyptol; Koch's Treatment; Lactates; Benzates; Ol. Morrhuæ; Pancreatin; Pepsin; Piccidia. Potas. Cantharidinæ; Quinine; Salicylates; Hypophosphites; Malt; Guaiacol; Potass. Telluras; Eosote; Geosote; Dionin.

*Externally.*—Ol. Gynocard.; Iodine; Aristol.

**Piles.**—See **Hæmorrhoids.**

**Pleurisy.**—Bryonia Tinct.; Liq. Am. Acet.; Apocynum; Aselepedin; Jaborandi; Morphine; Quinine.

**Pneumonia.**—Ac. Salicyl.; Ammon. Carb.; Caffeine; Morphine; Quinine.

**Poisoning.**—See under respective Poisons.

**Prickly Heat.**—Pulv. Salicyl. cum Talco; Dusting Powders; Thymolite.

**Pregnancy, Vomiting of.**—Antipyrin; Cocaine; Bisnath; Creasote; Inglishin; Spt. Nuc. Jugland; Ipecac.; Iridin; Morphine; Pepsin; Quinine.

**Pruritus.**—Acid. Boric.; Conil Ungt.; Carbol. Acid Lotion; Salicylic Acid; Alum; Alkaline Lotions; Liq. Carbonis Deterg.; Cocaine; Hydrarg. Oleat.; Lotio Nigra; Menthol; Mentholeate.

**Psoriasis.**—Acid. Carbollo; Ac. Pyrogall.; Anthrarobin; Antifebrin; Anaroba; Chrysarobin; Aristol; Hydroxylamine; Lanolin; Mollin; Naphthol; Ac. Salicyl.; Ol. Betule; Huile de Cade; Ol. Gynocard; Ichthyol; Piel's Ungt.; Sulphuris Hypochlor. Ungt.; Papaw Juice; Bals. Gargun.

*Internally.*—Arseno; Ol. Gynocard; Iron; Ol. Morrhuæ; Phosphorus; Quinine; Sulphur. Troch.

**Puerperal Fever.**—Acid. Boric.; Antipyrin; Antifebrin; Jaborandi; Fer. Perchl.; Quinine.

**Rheumatism.—**

*Acute.*—Ac. Salicyl.; Aghathin; Aconitine Preps.; Antifebrin; Antipyrin; Belladonna Chloroform; Methylene Blue; Colechin; Coto; Fer. Perchl.;

Ozonic Ether; Potass Citr.; Quinine; Salicylates; Salicylamid.; Salol; Cresalol; Sodii Dithiosalicylas; Trimethylamine; Phenacetin; Methyl-Salicyl; Salacetol; Colchi Sal; Ursa.

**Chronic**—Cresalol; Ac. Salicyl.; Agathin; Ammon Iod.; Antifebrin; Atropinæ Linim; Azadiracht. Oleum; Belladonna; Bollo; Capsici. Linim; Chinaphila; Chlorof. et Camph.; Chlorof. Linim; Cinchonidine; Colchicin; Coto; Curcas Oil; Betol; Ferri Iod.; Fer. Salicylas; Gelseminum; Gaultheria; Chloral et Camph.; Eucalyptus Oil (externally); Hippurates; Phytolacca; Podophyllin; Rhus; Ol Pini sylvestris; Ol. Gynocardia; Mudar; Punilo Oil and Baths; Ol. Pongamiae; Saligenin; Ol Cajeputi; Ol. Crotonia.

**Ricke's**.—Calcium Salts; Phosphates; Acid Phosph. dil.; Iron; Ol Morrhuæ; Hypophosphites; Quininae Fluoride.

**Ringworm**.—See Parasitic Skin Diseases.

**Salivation**.—Atropine; Alum; Belladonna; Coto; Chlorates; Creasol Vapor.

**Scabies**.—See Parasitic Skin Diseases.

**Scalds**.—See Burns.

**Scarlatina**.—Ammon. Benz.; Baptisia; Eucalyptus; Salicylic Acid.; Ozonised Oint.

**Sciatica**.—Acid. Osmic (Hypod.); Aconitine; Agathin; Antipyrin (Hypod.); Cinehonidine; Blue. Methylene; Colchin; Lith. Citras; Morph. (Hypod.); Liu. Bellad.; Menthol; Lin. Chlorof.; Methyl Chloride; Ung. Aconitin; Ung. Veratrin.; Sod. Salicylas; Phenacetin.

**Scrofula**.—Chinaphila; Calcium Salts; Phosphates; Calx Sulphur; Ferri Iodid.; Iron Salts; Iodine; Iodoform; Ol. Morrhuæ; Quinine; Raminin; Siegesbeckia; Trifolium.

**Seborrhœa**.—Captol.

**Sea-Sickness**.—Amyl Nitris; Antipyrin; Coca; Cocaine; Chloral; Chloroform; Nitroglycerine; Morph. (Hypod.); Bromides; Nitrites; Resorcin; Kola prep.

**Shingles**.—See Herpes.

**Sleeplessness**.—See Insomnia.

**Small-Pox**.—See Variola

**Snake-Bite**.—Antitoxin Serum; Ammon. Liq. Fort; Potass. Permang.; Strychnine; Aristolochia.

**Spasm**.—Apomorphine; Aether; Spt. Ammon. Arom.; Amyl Nitris; Atropine (Hypod.); Camphor; Chloroform Vapor; Tinct. Chloro. et Morph.; Conize; Ol. Menth. Pip.; Piscilla.

**Spermatorrhœa**.—Belladonna; Ergot; Antipyrin; Fer. Perchl.; Phosphates of Iron and Quinine; Easton's Syrup; Gokbru; Salix Nigra.

**Spleen Affections**.—Fluorides; Quinine; Iron; Tinct. Iodi (externally).

**Sterility**.—See Impotence.



**Sunstroke**—Antipyrin; Apomorphin; Atropine; Morphine (Hypod.); Quinine; Pargative Euenata.

**Syphilis**.—Ethyl Iodide; Ammon. Iodid.; Anri et Sodij Ohlorid; Cascara Amarga; Cadmii Salicylas; Condurango; Amyli Iod.; Fer. Iodid. Hydrocotyle; Mercurial Preparations; Iodides; Phytolacea; Manaca; Mudar; Stillingia; Iodine; Siegesbeckia; Trifolium; Syr. Acid. Hydriodic.; Mercurials locally; Bubidium Iodid.; Euophen.

**Syphilitic Skin Diseases**.—Mercury Preps. (Ungt. or Plaster); Iodoform; Resorcin; Aristol; Pix Liquida; Sulphaminol.

**Syphilitic Ulcers**—Acalypha; Aristol; Amyli Iod. Pasta; Liq. Hydrarg. Nitr. Acid.; Ointments and Lotions of Mercury; Iodoform; Resorcin; Zinc. Chlor.; Collod. Iodof.; Collod. Salicyl.; Iodol; Sozoidol; Naphthol Hydrarg.; Thio-Resorein; Hydrocotyle.

**Tetanus**.—Antitoxin Tetanus; Camph. Monobr.; Chloral; Curare; Canabis; Conine; Gelsemium; Morphine; Pilocarpine; Physostigma and Physostigmine; Pelletierine; Strophanthus; Urethane.

**Thirst**.—Ac. Lactic; Ac. Phosph. Dill; Coea.

**Throat Affections**.—

*Inflammation and Tonsillitis*—Acid. Boric.; Creosol; Creasote; Acid. Salicyl. Aconite Pastils; Belladonna; Ferri Salicyl.; Quinine Salicyl. Antipyrin; Salicylates; Benzoates; Rhus Glabra (Gargle); Salumiu.

*Relaxed*.—Garg. Acid. Carbol.; Cocaine; Collinsonia; Glys. Ac. Tannic; Chlorates in Gargle; Pastil. and Troch.; Inhalations of Am. Chlor.; Pinus Syl.; Ac. Carbolic; Gum Eucalypt.; Fer. Perchl.; Ferro-Alumen; Hydrastis Garg.

**Tinea**.—See **Parasitic Skin Diseases**.

**Toothache**.—Chloral et Cocalna; Chlorof. et Camph.; Cocaine; Collod Colloid; Butyl-Chloral; Gelsemium; Morph. (Hypod.); Piceidia; Eugenol; Tinct. Quin. Ammon.; Ac. Carbol.; Menthol Combinations; Chlorof. cum Camph.; Creasote; Potass. Permang.

**Typhoid Fever**.—See **Fevers**.

**Ulcers**.—(See also **Syphilis**).

*External*.—Abies Canadensis; Camph. Carbol. Acid.; Camph. Salicyl.; Anacardium; Pyoktanin (blue); Antifebrin (Ungt.); Aristol; Bisin. Oxyd.; Bellad. Glys.; Colloillum; Eucalyptus Oint. etc.; Cupri Oleat.; Hydrogen. Perox.; Hydrocotyle; Potass. Permang.; Smiltas Preps.; Styptic Colloid; Iodol; Sozoidol; Iodoform; Lanolin; Papain; Naphthalin; Salol; Trifolium (Lotion); Zinc Chlorid. and Oleat

*Internal*.—Bisin. Oxyd.; Enonym. and Bismuth; Iodoform; Iodol.

**Uræmia**—Amyl Nitris; Apocynum; Cassia; Digitalin; Jaborandi; Nitroglycerine; Lithi Hippurus; Potass. Cobalto-Nitris; Sodii-Benzozs.

**Urinary Diseases**.—(See also **Calculi**).

*Incontinence*.—Antipyrin; Belladonna; Ergot; Ferri Iod.; Fer. Perchl. Camph. Monobr.; Gokhru; Lycopodium; Rhus Aromat.; Naphthalin.



*Hæmaturia*.—Camphor; Cannabís; Ergot; Ferro-Alumen; Hamamelis.

# Urine Tests.—

*Albumen*.—Heat and Ac. Nitric; Acidulated Brine; Pot. Merc. Iod. Sodium Tungstate; Picric Acid; Potass. Ferrocyanide; Million's Reagent; Trichloroacetic Acid; Potass. Sulphocyanide.

*Sugar*.—Fehling's Sol.; Pavy's Sol.; Indigo-carmin; Bismuth; Picric Acid; Phenylhydrazine Hydrochlor.

*Bile*.—Nitric Acid; Peptone.

*Acidity*.—Litmus; Congo Red; Liq. Calc. Iodinat.

*Uterus, to contract*.—Caulophyllum; Ergot Preps.; Gosyp. Rad. Cort.; Hamamelis; Hydrastis; Sclerotic Acid; Ustilago.

# Variola—

*Locally*.—Ung. Ac. Boric.; Oleum Ac. Carbol.; Glyc. Amyli; Ung. Iodof. form; Ung. Hydrag.; Collodion; Ung. Zinci Oleat.

*Internally*.—Antifebrin; Antipyrin; Xylol.

*Vesicants*.—Æthyl Iodide; Anacardii Ungt.; Chloral; Collod. Vesicans; Capsicum; Cantharides Preps.; Liq. Ammon. Fort.

*Vomiting*.—Bismuth; Cocaine; Ao. Carbolio; Meat Preps.; Chloral; Ingulvin; Morphine (Hypod.); Nitroglycerine; Effervescing Mixtures; Aerated Waters.

# Warts.—See Corns.

*Whooping Cough*.—Vapor Ac. Carbol.; Ac. Cresylic.; Allyl Tribrom.; Ammon. Brom. (Troch.); Bromoform; Antipyrin; Apomorphine; Alum.; Bryonia; Benzozates; Bromides; Cannabís; Camph. Monoh.; Chloral; Conium; Drosera; Ergot; Grindelia; Pulv. Stramon. Co.; Ozonic Ether; Phenacetin; Narcine; Trifolium; Zinci Oxid.; Zinci Sulphas.

# Worms —

*Tonia* —Acid. Embelic; Ammon. Embelas; Anacardium; Ext. Filici Liquid; Hydrag. Subchlor.; Embelia; Káládáua; Pelletierine; Granat, Ext. Liq.

*Ascarides*.—Alstonia; Bhawolice; Arcea; Fer. Perchlor.; Santonin; Naphthalin; Holarrh. Scels; Papaw Juice.

*Wounds*.—Acid. Boric; Ac. Carbol. Lotio; Adhesol; Calendula; Salicylated Plaster; Salic. Camph. Wool; Aristol; Creolin Powder; Lanocrein; Antiseptic Gauzes and Woods; Liq. Alum. Acet.; Collodium; Styptic Colloid; Mercurio-Zinc Cyanide Gauze; Iodoform; Ichthyol; Cerat. Petrolie; Potass. Permang.; Resorcin; Thymol; Zinci Chlorid; Salol; Hydrag. Perchlor. Lotion, etc.; Thio-Resorcin; Naphthol; Sanitary Wood-Wool; see also Antiseptics.

# Zoster.—See Herpes.

# INDEX.

## A

	PAGE
Abbreviations	XVII
Abies Canadensis	1, 242
„ Excelsa	244
Abrin	1
Abrus Precatorius	1
Absolute Alcohol	30
„ Ether	25
„ Phenol	6
Absorbent Cotton	152
Acacia Arabica	2
„ Catechu	2
Acalypha Indica	3
A. C. E.	95
Acetal	3
Acetaldehyde	31
Acetanilid	45
Acetate of Ethyl	26
Acetic Æther	26
Acetocastin	30
Acetone	312
„ Test	3
Acetophenone	48
Acetopropionic Acid	83
Acetum Cantuariæ	182
„ Ipecacuanhæ	3
Acetyl Benzene	212
Acetyl-para-Oxyphenyl-urethane	212
Acetyl-para-ethoxyl-phenyl-urethane	169
Acetyl Phenyl-Hydrazin	310
Acidulated Brine Test	49
Acidum Acetopropionicum	29
„ Agaricum	174
„ Atlanticum	15
„ Alphonolicum	41
„ Anacardicum	56
„ Arseniosum	

# INDEX.

	PAGE
Acidum Benzoicum ...	4
" Boricum ...	4
" Camphoricum...	51
" Carbazoticum...	16
" Carboheum ...	6
" " Liquefactum ...	7
" " Syntheticum ...	6
" Catharticum ...	270
" Chloraceticum ...	11
" Cetraricum ...	11
" Chromicum ...	11
" Chrysophanicum ...	11, 313
" Cinnamicum ...	52
" Cresylicum ...	12
" Diiodosalicylicum ...	13
" Dioxypenicum ...	20
" Ergoticum ...	16
" Eugenicum ...	127
" Filicin... ..	132
" Fluoricum ...	143
" " Dilutum ...	13
" Guaiacol-Carboxylicum ...	13
" Gynocardicum ...	118
" Homotoluicum ...	151
" Hydriodicum ...	15
" Hydrocinnamicum ...	180
" Hydrocyanicum Dilutum ...	15
" Hydrofluoricum ...	218
" Hyperosmicum ...	13
" Hypophosphorosum ..	14
" Iodosalicylicum ...	234
" Lacticum ...	20
" " Dilutum ...	13
" Laricicum ...	14
" Levulinicum ...	29
" Morrhucum ...	48
" Oleicum ...	207
" Osmicum ...	214
" Oxynaphthoicum ...	14
" Perosmicum ...	211
" Phenicum ...	14
" Phenylaceticum ...	6
" Phenylhydrazin-levulinicum ...	15
" Phenylpropionicum ...	48
" Phosphoricum...	15
" " Concentratum ...	233
" " Dilutum ...	233
" " Glaciale ...	244
" Picricum ...	16

	PAGE
Acidum Picropodophillicum ...	246
" Podophyllicum ...	246
" Pyrogallicum ...	16
" (Oxidised) ...	17
" Pyrogeneticum ...	169
" Pyrophosphoricum ...	234
" Salicylicum ...	17
" Salicyl-Sulphonicum ...	310
" Saliphonicum ...	310
" Scleroticum ...	127
" Sulphanilicum ...	21
" Sulphurous ...	21
" Trichloraceticum ...	11, 311
" Trichlorphenicum ...	10
" Triutrophenicum ...	16
" Vanillicum ...	301
Aconine ...	22
Aconiti Chloroformum ..	23
Aconitia ...	21
Aconitina ...	21
Aconitum Ferox...	22
" Paterophyllum ...	22
" Japonicum ...	22
" Napellus ...	21
" Palmatum ...	22
Acorin ...	23
Acorus Calamus...	23
Actæa Racemosa...	96
Actol ...	23
Adamsonia Digitata ...	23
Adansonin...	23
Adeps Lanæ ...	191
" Hydrosus ...	192
Adepsine Oil ...	221
Adhatoda Vesica ...	24
Adhesol ...	24
Adonidin ...	24
Adonis ...	24
" Vernalis ...	24
Airated Antipyrin Water ...	228
" Caffeine Water ...	75
" Lithia Water ...	194
Ægle Marmelos ...	25
Æscorcin ...	24
Æsculetin ...	24
Æculin ...	24
Ætner ...	25
" Aceticus ...	26
" Bromatus...	27

	PAGE
Eathes Phosphoratus ...	232
" Purns ...	25
Æthyl Bromidum ...	27
" Chloridum ...	27
" Iodidum ...	28
" Nitris ...	29
Æthylene Bromide ...	27
Agar-Agar ...	143
Agaric ...	28, 203
" of Larch ...	28
Agaric Acid ...	25
Agaricin ...	23
Agaricus Albus ...	23
" Muscarius ...	203
Agathiu ...	20
Airol ...	63
Ajowan ...	29
Ajwain ...	29
Ajwain-ka-phul ...	29
Ajwain Oil ...	29, 293
Akra ...	29
Alanine Mercury ...	203
Alant Camphor ...	160
Alant Acid ...	174
Alantol ...	174
Alapurin ...	192
Albumen Test ...	210
Albuminate of Iron ...	133
Alcohol ...	30
" Amylic Tertiary ...	40
" Ethylic ...	80
" Menthylie ...	190
" Methylicum ...	30
" Phenio ...	6
Alcohols ...	30
Aldehydum ...	31
" Dilutum ...	31
" Formicium ...	31
Alembroth Cotton Wool Tissue ...	65
" Gauze ...	165
" Wool ...	165
Aletin ...	32
Aletris Farinosa ...	31
Alexandrian Senna ...	270
Allyl Alcohol ...	30
" Hydroxide ...	30
" Sulphourea ...	293
" Tribromidum ...	32
Aloin, Bella donna, and Strychnine Pills ...	64

	PAGE
Alpha-Naphthol...	211
Alphatoluic Acid ...	15
Alphol ...	211
Alsol ...	33
Alstouia ...	32
" Constricta ...	33
" Scholaris ...	32
Alstonine... ..	33
Altheu ...	57
Alum, Iron ...	142
Alumen ...	33
" Exsiccatum ...	33
Aluminium ...	33
" Gallas ...	35
Aluminium Naphtholdisulphonate ...	34
" Salicylicum ...	34
" Ammoniatum ...	34
Aluminii Acetici, Liquor ...	33
" Acetotartras ...	33
" Bisulphis ...	34
" Boroformas ...	35
" Borotannas... ..	35
" Borotartras ...	35
" Chloridum ...	33
" Liquor ...	34
" Nitras ...	34
" Oleas... ..	215
" Potassium Salicylas ...	35
" Silicas ...	183
" Sulphas ...	33
" Sulphis ...	34
" Tannico Tartras ...	35
Alumnol ...	34
Amanita Muscaria ...	208
American Mandrake ...	246
" Indian Hemp ...	49
Amido-Benzene... ..	43
Aminol ...	293
Ammonia, Volcanio ...	35
Ammoniated Glycyrrhizin ...	152
Ammonii Arsenitis Liquor ...	56
" Benzoas ...	35
" Bicarbonas... ..	36
" Bromidum ...	36
" Carbazotas... ..	16
" Carbonas ...	36
" Acida ...	36
" Chloridum ...	36
" Embelus ...	37

	PAGE
Ammonii Fluoridum ...	13
" Hypophosphis ...	234
" Iodidum ...	37
" Nitras ...	37
" Persulphas ...	37
" Phosphas ...	37
" Picras ...	16
" et Rubidii Bromidum ...	36
" Salicylas ...	20
" Sesquicarbonas ...	31
" Succinas ...	38
" Sulpho ichthyolas ...	172
" Valerianas ...	39
Ammonio-Ferric Alum ...	142
" Tartrate ...	142
Ammonium ...	35
" Phenyl-acetamide ...	38
Ammonol ...	33
" Salicylate ...	33
" Bromidum ...	38
" Lithias ...	38
Amorphous Cocaine ...	104
" Gelsemine ...	148
" Hyoscyamine ...	170
" Phosphorus ...	233
Amygdaline ...	250
Amygdophenin ...	39
Amyl Alcohol Tertiary ...	40
" Colloid ...	23
" Hydride ...	39
" Nitris ...	39
" Tertiary ...	40
Amylamine ...	207
Amylene ...	41
" Hydras ...	40
Amyli Iodidum ...	180
Amyloform ...	41
Amylum Iodatum ...	180
Anacardic Acid ...	41
Anacardium ...	41
" Occidentale ...	41
Anæsthetic, Bryant's ...	95
" Ether ...	26
" Parson's Local ...	96
" Regnault's ...	95
Anæsthesia, Cocaine and Chloroform ...	107
Anagæcum Fragrans ...	115
Anagæne Hydrobromide ...	42
Anagris Fœtida ...	42



# INDEX.

	PAGE
Analgene... ..	41
Analgesine ... ..	223
Anamirta Cocculus ... ..	239
„ Paniculata... ..	239
Anamirtin ... ..	239
Audira Araroba ... ..	51
Andrographis Paniculata ... ..	189
Andropogon citratus... ..	43
Anemone Patens ... ..	250
„ Pratensis ... ..	250
„ Pulsatilla ... ..	250
Anemonin ... ..	251
Anestile ... ..	23
Anesthyl ... ..	23
Anhaline ... ..	43
Anhalonine ... ..	42
Anhalonium Fissuratum ... ..	43
„ Williamsii ... ..	43
Anhydrous Creasote ... ..	116
„ Lanolin ... ..	191
Anhydro-gluco-chloral ... ..	94
Aniline ... ..	43
Aniline Camphorate ... ..	43
„ Colours ... ..	43
„ Sulphate ... ..	43
Anilipyrin ... ..	46
Anodyne A nyl Colloid ... ..	23
Antacid Lozenges ... ..	70
Anthoxanthum Odoratum ... ..	44
Antidiphtherie Serum ... ..	48
Antifat ... ..	144
Antifebrin ... ..	46
Antifungin ... ..	5
Antikamnia ... ..	46
Antinosin ... ..	213
Antinervin ... ..	46
Antiuonnin ... ..	46
Antipyronin ... ..	47
Antipyrin ... ..	223
„ Amygdalato ... ..	239
„ Salicylate ... ..	229
„ Salol... ..	239
Antiseptin ... ..	46
Antiseptic Cologne ... ..	164
„ Tablets ... ..	164
Antiseptol ... ..	101
Antitherinin ... ..	43
Antitoxins ... ..	47
Antitoxin Antivenomous ... ..	48

# INDEX.

	PAGE
Antitoxin Tetanic ... ..	48
Antiphthisin ... ..	47
Antitetraizin ... ..	47
Anthrarobin ... ..	45
Antrophores ... ..	291
Aperient Fruit Lozenges ... ..	269
"    Salt ... ..	276
Aphrodisiac Pills ... ..	121
Apiol ... ..	49
Apium ... ..	48
"    Petroselinum ... ..	49
Apocoeine ... ..	50
Apocynin ... ..	49
Apocynin... ..	49
Apocynum Cannabinum ... ..	49
Apolytin... ..	51
Apomorphine Hydrochloridum... ..	0
Apples, Ferrated Extract of ... ..	136
Apozin ... ..	44
Aqua Camphoræ ... ..	83
"    Chloroformi ... ..	95
"    Cinnamomi ... ..	101
"    Picis ... ..	245
"    Ptychotis... ..	29
Arachis Hypoqua ... ..	51
Araroba ... ..	51
Arbor Vitæ ... ..	
Arbutin ... ..	52
Arctostaphylos Uva Ursi ... ..	52
Areca ... ..	53
"    Catechu ... ..	53
Arecaïne ... ..	53
Arecoline... ..	53
Argentamin ... ..	54
Argentum ... ..	43
Argenti Lactas... ..	53
"    Citras ... ..	54
"    Nitras ... ..	54
"    "    Vitius... ..	54
"    "    Induras ... ..	54
"    Sulphocarbolas ... ..	54
Argentol ... ..	55
Argonin ... ..	55
Aristol ... ..	55
Aristolochia Indica ... ..	55
Arsenate of Iron ... ..	137
"    Quinine ... ..	253
"    Sodium ... ..	272
"    Strychnino ... ..	285

# INDEX.

	PAGE
Arsenic, White	56
Arsenical Cigarettes	273
Arsenii Iodidum	56
„ Oleas	215
Arsenious Anhydride	56
„ Acid...	56
Arsenium	56
Asaprol	57
Asclepedin	57
Asclepias Tuberosa	57
Aselline	207
Aseptin	4
Aseptol	10
Asparigin	57
Asperula Odorata	115
Aspidium Filix Mas	143
Aspidosperma Quebracho	252
Aspidospermamine	252
Aspidospermatine	252
Aspidospermine Sulphas	252
Aspidospermine	252
Atisine	22
Atropa Belladonna	62
Atropina	57
„ Iodate	59
Atropinae Sulphas	59
„ Salicylas	59
„ Valerianas...	59
Aurantii Cortex	102
Auri Bromidum...	60
„ et Potassii Bromidum	61
„ et Sodii Chloridum	60
„ Iodidum	61
Aurum	60
Azadirachta	61

## B

Bactericides, Kingsett's	108
Bael	26
Balsamum Dipterocarpi	61
„ Gurjunæ	61
„ Junce	61
Baptisia...	62
Baptisin	62
Barberry...	65
„ Indian	66
Bawachi	66

	PAGE
Bay Rum	30
Bearberry	52
Bear's Weed	303
Beech Creasote...	115
" Tar	246
Beef, Essence of	86
" Extract of	86
" Jelly, Peptonised	219
" Peptonised	226
" Peptonoids	226
Belladonna	62
" Cough Granules	64
Benzacetic	65
Benzanilide	65
Benzetal	65
Benzoate of Ammonium	35
" Bismuth...	76
" Lithium...	194
" Mercury	160
" Potassium	249
" Sodium	273
Benzo-iodhydrinum	65
Benzol	65
Benzosol	119
Benzoyl-Methyl-Egonine	103
Benzoyl-Naphthol	211
Benzoyl-Phenyl-Amidoacetic Acid	66
Benzoyl-pyseudotropeine	108
Benzoyl-Sulphonio Imide	283
Berberina	66
Berberina Sulphas	66
" Hydrochloridum	66
" Phosphas	66
Berberine...	66
Berberis	65
" Aquifolium	65
" Aristata	66
" Asiatica	66
" Cortex	66
" Lycium	66
" Vulgaris	65
Beta-Naphthol	210
Betel Loavos	53
" Nut	53
" Oils	53
" Phenol	53
Betol	211
Betula Alba	246
" Lenta	145

# INDEX.

	PAGE
Betulae Albae Oleum ... ..	246
Bhang ... ..	82
Bhawchee ... ..	68
Bichloride of Methylene ... ..	203
Bicyanide of Mercury ... ..	160
Bikh ... ..	22
Bile Tests ... ..	312
Binioidide of Mercury ... ..	161
Birch Oil ... ..	146
" Tar ... ..	246
Biscuits, Jambul and Gluten ... ..	196
Bish ... ..	22
Bishop's Weed ... ..	29, 293
Bismal ... ..	70
Bismuth, Magistery of ... ..	69
" Metallic ... ..	67
" Salts ... ..	67
" Test ... ..	310
" White ... ..	69
Bismuthi et Ammonii Citras ... ..	67
" Benzoas ... ..	67
" Naphthol ... ..	67
" Carbolas ... ..	68
" Carbonas ... ..	67
" et Cerii Salicylas ... ..	69
" Citras... ..	67
" Dithiosalicylas ... ..	70
" Gallas... ..	69
" Iodopyrogallas ... ..	67
" Loretinas ..... ..	67
" Oleas ... ..	215
" Oxidum ... ..	68
" Oxycarbonas ... ..	67
" Oxychloridum ... ..	68
" Oxyiodidum... ..	68
" Oxyiodogallas ... ..	66
" Oxynttras ... ..	69
" Oxysalicylas ... ..	69
" Phenylicum ... ..	69
" Phosphas ..... ..	69
" Pyrogallas ... ..	69
" Salicylas ... ..	69
" Subiodidum ... ..	68
" Subgallas ... ..	69
" Subnitras ... ..	69
" Sulphas ... ..	69
" Tribromcarbolas ... ..	70
" Tribromphenol ... ..	70
Bismuthol ... ..	70

# INDEX.

	PAGE
Bismuthous Oxide ... ..	69
Bismuthum ... ..	67
" Album ... ..	69
" Peptonatum ... ..	68
" Purificatum ... ..	67
Black Alder ... ..	260
" Draught ... ..	271
" Haw ... ..	303
" Oxide of Manganese....	198
Bladder Wrack ... ..	143
Blanchard's Pills ... ..	139
Blaud's Pills ... ..	138
Blistering Collodion ... ..	83
Blood Root ... ..	217
Blue Cohosh ... ..	88
" Flag ... ..	183
" Gum Tree ... ..	129
Bog Bean ... ..	201
" Moss ... ..	280
Bois puant ... ..	42
Boldin ... ..	71
Boldoa Fragrans ... ..	70
Boldoin ... ..	71
Boletus Laricis ... ..	28
Bolus Alba ... ..	168
Bonduc Seeds ... ..	71
Bonducella ... ..	71
Boracic Acid ... ..	4
Boracito ... ..	5
Boral ... ..	35
Boric Acid ... ..	4
Borine ... ..	71
Boroglyceride ... ..	5
Borsalyl ... ..	71
Botany Bay Kino ... ..	131
Bongies, Betol ... ..	211
" Cocaino ... ..	104
" Iodoform ... ..	173
" Iodoform and Eucalyptus	175
" Thallin ... ..	291
Bourboule Water ... ..	50
Bow's Liniment... ..	38
Brandish's Alkalino Solution ... ..	248
Brand's Essences ... ..	86
Brazil Wood ... ..	156
Brazilian Cocoa ... ..	155
Brenzcaln ... ..	118
Bromal ... ..	9
Bromalino ... ..	72

# INDEX.

	PAGE
Bromal Hydras...	71
Bromethyl...	27
Bromethylformine...	73
Bromide of Ethyl...	27
Bomidia...	92
Bromine Solution...	313
Bromohuocemum...	72
Bromo-Caffeine...	73
Bromo-Camphor...	81
Bromoform...	72
Bromopyrin...	72
Broom...	279
Brucine...	286
Bryant's Anæsthetic...	95
Bryonia Alba...	72
„ Dioica...	72
Bryonia...	71
Bryony...	71
Buckbran...	201
Buckthorn...	260
Burdock...	231
Burgundy Pitch...	244
Burnett's Disinfecting Fluid...	305
Butea Frondosa...	73
Butternut...	187
Butylamine...	207
Butyl-Chloral Hydras...	73
Butyromel...	73
Byne...	197
Bynin...	197

## C

Cachets...	74
Cactus Anhalonium Lewinii...	42
„ Grandiflorus...	74
Cadmium Salicylas...	74
Cæsalpinia Bonducella...	71
„ Sappan...	74
Cæsium Bitartrate...	74
„ Bromidum...	74
Caffeina...	75
Caffeluzæ Ammonio Citras...	75
„ Chloral...	76
„ Chloro...	76
„ Citras...	75
„ „ Effervescens...	76
„ „ cum Potassii Bromido...	76
„ Hydrochloridum...	76
„ Hydrobromidum...	78



	PAGE
Caffeinae Hydrobromidum Effervescens ..	76
„ Phthalas ...	76
„ Sodio Benzoas ...	76
„ „ Cinnamas ...	76
„ „ Iodide ...	177
„ „ Salicylas ...	76
„ Sulphas ...	77
„ Sulphosaurennatrius ...	273
„ Valerianas ...	77
Caffyn's Liquor Carnis ...	86
Cajeputi Oil ...	77
Cajuputol... ..	77
Calabar Bean ...	236
Calamina Præparata ...	304
Calcii Boras ...	77
„ Chloridum ...	77
„ et Ferri Lactophosphatum Syrupus ...	14
„ Glycerophosphas ...	234
„ Hippuras... ..	78
„ Hypophosphis ...	234
„ Lactas ...	14
„ Lactophosphatis Syrupus ...	14
„ Permanganas ...	78
„ Saccharas... ..	78
„ Salicylas ...	78
„ Sulphidum ...	79
„ Sulphophenas ...	78
Calcis Iodinatae Liquor ...	181
Calcium ...	77
„ Carbide... ..	77
Calendula... ..	80
Calliandra Houstoni ...	217
Calisaya Bark ...	97
Calomel ...	165
Calotropis Cortex ...	208
„ Gigantea ...	208
„ Procera ...	208
Calx Sulphurata... ..	70
Camellia Thea ...	75, 292
Camphoid... ..	81
Camphor Ball ...	80
„ and Chloral ...	92
„ „ with Cocaine... ..	92
„ Essential Oil of ...	80
„ Naphtol ...	61
„ Peppermint ...	199
„ Phenol ...	61
Camphora ...	80
„ Monobromata ...	61

# INDEX.

	PAGE
Camphora Salicylata ...	10
" Salol... ..	81
Camphorated Carbolic Acid ...	7
" Dentifrices ...	80
Camphoric Acid... ..	81
Canada Pitch ...	244
Canadian Fir Tree ...	1
" Hemp... ..	49
" Moonseed ...	199
Cannabin Tannas ...	83
Cannabine ...	83
Cannabinol ...	83
Cannabinon ...	83
Cannabis Indica... ..	82
" Sativa... ..	82
Cantharides ...	83
Cantharidin ...	84
Canton's Phosphorus ...	79
Caoutchoucine Spirit ...	30
Capsaicin ...	84
Capsici Fructus ...	84
Capsicin ...	84
Capsicum Fastigiatum... ..	84
Capsules, Amyl Nitrite ...	39
" Amylene Hydrate ...	40
" Apol ...	49
" Cascara Sagrada ...	87
" Chloroform ...	95
" Elastic ...	147
" Ethyl Bromide ...	27
" " Iodide ...	28
" " and Chloroform ...	28
" Gelatine ...	147
" de Goudron ...	245
" Ichthyol ...	172
" Male Fern ...	143
" Morrhual ...	208
" Santal Oil ...	268
" Tar ...	245
" Xylol ...	303
Capitol ...	85
Carbasus, see Ganze.	
Carbazotate of Ammonia ...	16
Carbozatic Acid... ..	16
Carbolate of Bismuth ...	68
" of Mercury ...	160
" of Quinine ...	253
" of Sodium, Solution of ...	9
Carbolic Acid ...	6

	PAGE
Carbolic Colloid ...	111
"    Oil ...	8
"    Soaps ...	9
"    "Soloids" ...	8
Carbolised Catgut Ligatures ...	7
"    Iodine Solution ...	8
"    Ligature Silk ...	7
"    Lint ...	9
"    Salve Mulls ...	9
"    Smelling Salts ...	9
"    Tow ...	7
"    Wool ...	7
Carbonaphthoic Acid ...	211
Cardine ...	85
Cardol ...	41
Carissa Schimperi ...	284
Carica Papaya ...	220
Carniferrin ...	85
Carnis Extractum ...	86
"    Liquor ...	86
Carpaine ...	221
"    Hydrochloridum ...	221
Carthagena Bark ...	99
Carum Ajowan ...	29
"    Opticum ...	293
Carvacrol ...	87
"    Iodide ...	87
Casca Bark ...	123
Cascara Amarga ...	87
"    Sagrada ...	87
Cashew Nut ...	41
Cassia Acutifolia ...	230
"    Angustifolia ...	230
"    Obovata ...	230
Cataplasma Daturæ ...	232
"    Hydrocotyles ...	169
Catgut Ligature, Carbolised ...	7
Cathartic Acid ...	270
Catheter Oil ...	8
Caulophyllin ...	83
Caulophyllum Thallctroides ...	83
Caustic Pastes ...	224
Cayenne Pepper ...	84
Celloldlu ...	111
Ceutigrade Scale ...	317
Cephaline ...	191
Ceratum Calamine ...	304
"    Cocaine ...	104
Cerasin ...	250

# INDEX.

	PAGE
Cerberinum ... ..	89
Cerberid ... ..	89
Cerebrine ... ..	89
Ceresin ... ..	221
Cetraric Acid ... ..	11
Cetrarin ... ..	11
Cevadilla ... ..	301
Cevadilline ... ..	301
Cevadine ... ..	301
Chalybeate Plaster ... ..	140
Chandan ... ..	263
Charta Nitrata ... ..	249
Chanlmugra Oil ... ..	154
Chavica Betel ... ..	53
Chavicol ... ..	53, 89
Chekan ... ..	89
Cheken ... ..	89
Chekenetin ... ..	89
Chekenic Acid ... ..	89
Chekenon ... ..	89
Chemical Food ... ..	141
Chequen ... ..	89
Chian Turpentine ... ..	290
Chicken, Essence of ... ..	83
"    Extract of ... ..	86
Chimaphila Umbellata... ..	90
China Clay ... ..	183
Chinaseptol ... ..	122
Chinese Oil of Peppermint ... ..	201
Chinidin Sulphate ... ..	100
Chinine ... ..	253
Chinoidin ... ..	90
Chinolone ... ..	90
Chinolini Salicylas ... ..	90
"    Sulphocyanas ... ..	90
"    Tartras ... ..	90
Chinolinum ... ..	90
Chinosol ... ..	91
Chirata ... ..	91
Chiratin ... ..	91
Chloracetic Acid ... ..	11
Chloralolopol ... ..	91
Chloral Ammonia ... ..	93
"    Antipyrin ... ..	230
"    Caffeine... ..	76
"    cum Camphora ... ..	92
"    "    et Cocaina ... ..	92
"    Formamide ... ..	93
"    Hydras ... ..	91

	PAGE
Chloral et Phenol	92
"    Suppositories	92
"    Urethane	300
Chloralamid	93
Chloralum	34
Chloralose	94
Chloramyl	95
Chloratol...	94
Chloride of Ethyl	27
"    of Methyl	212
Chlorinated Chloride of Ethyl	128
Chlorine Gargle	273
Chlorobrom	93
Chlorocaffeine	76
Chlorodyne	90
Chloroformum	94
"    Aeoniti	23
"    Belladonnæ	63
"    Camphoratum...	95
"    Salleylide	93
Chloroform and Cocaine Anæsthesia	107
"    "    Mastic...	96
Chlorogenine	33
Chlorphenol	10
Chlorolin	94
Chlorophyll	96
Chota Gokhru	152
Chrisma	222
Chromic Acid	11
"    "    Solution	11
"    Anhydride	11
Chrysarobine	61
Chrysarobinum	61
"    Oxidized	62
Chrysoplastic Acid	53
Churrus	62
Cieutine	112
Cigarettes, Arsenical	273
Cimicifuga Racemosa	96
Cimifuga	96
Cimicifugin	96
Cimolite	189
Cinchona Bark	97
"    Calysaya	97
"    Cordifolia	98
"    Excelsa	170
"    Febrifuge	99
"    Lanceifolia	97
"    Officinalls	97

	PAGE
Cinchona Pitayensis ... ..	98,252
" Succirubra ... ..	98
Cinchonæ Cortex ... ..	97
" Rubræ Cortex ... ..	98
Cinchonidinæ Salicylas ... ..	100
" Sulphas... ..	100
Cinchouine ... ..	100
Cinchouinæ Hydrochloridum... ..	101
" Iodosulphas ... ..	101
" Iodomercurias ... ..	101
" Sulphas ... ..	101
Cineol ... ..	131
Cineraria Maritima ... ..	97
Cinnamic Acid ... ..	12
Cinnamyllic Acid ... ..	12
Cinnamate of Sodium ... ..	12
Cinnamylate of Sodium ... ..	12
Cinnamomum Camphora ... ..	80
" Zeylanicum ... ..	101
Cissampelos Pereira ... ..	102
Citric Acid Pellets ... ..	311
Citrophena ... ..	102
Citrus Aurantium ... ..	102
Claviceps Purpurea ... ..	125
Cleaver's Grass ... ..	144
Clemen's Solution ... ..	56
Clover ... ..	297
Clubmoss ... ..	198
" Spores ... ..	198
Coal Tar ... ..	244
Cobalto-Nitrite of Potassium... ..	248
Coca ... ..	102
Cocaidine ... ..	104
Cocaine ... ..	103
" and Chloroform Anæsthesia ... ..	167
" Phenol ... ..	107
Cocaina ... ..	103
Cocaine Collodium ... ..	104
" Citras ... ..	105
" Hydrobromidum ... ..	105
" Hydrochloridum ... ..	105
" Hydriodidum... ..	105
" Lactas ... ..	106
" Nitras ... ..	107
" Saccharis ... ..	107
" Salicylas ... ..	107
" Sulphas... ..	107
Cocamine ... ..	104
Cocculus Indicus ... ..	240

# INDEX.

	PAGE
Cod Liver Oil ... ..	207
" Phosphorised ... ..	207
Codeia ... ..	103
" and Glycerine Jelly ... ..	103
Codeina ... ..	103
Codeinæ Iodas ... ..	110
" Phosphas ... ..	109
Coffea Arabica ... ..	75
Cola Acuminata ... ..	190
Colchicein ... ..	110
Colchicina ... ..	110
" Salicylas ... ..	110
Colchi-Sal. ... ..	110
Colchicum Autumnale ... ..	110
Colic Root ... ..	31
Collinsonia Canadensis ... ..	110
Collodion ... ..	111
Colloidum ... ..	111
" Aristol ... ..	53
" Belladonnæ ... ..	63
" Capsici ... ..	85
" Callosum ... ..	112
" Cocaine ... ..	104
" Flexile ... ..	111
" Hæmostaticum ... ..	111
" Ichthyol ... ..	172
" Iodi ... ..	179
" Iodol ... ..	177
" cum Iodoform ... ..	112, 175
" cum Oleo Crotonis ... ..	112
" Salicylicum ... ..	19
" Vesicans ... ..	111
Colloid Anodyne Amyl ... ..	23
" Styptic ... ..	112
Colloxyllum ... ..	252
Cologne Antiseptic ... ..	164
Columbian Bark ... ..	93
Compressed Tablets ... ..	233
Concentrated Phosphoric Acid ... ..	233
Conchiniu Sulphate ... ..	252
Condodendron Tomentosum ... ..	102
Condurangiu ... ..	112
Condurango ... ..	112
Cones, Obstetric ... ..	104
Conessl Bark ... ..	158
Confectio Emblicæ ... ..	126
" Senræ ... ..	271
" Sulphuris ... ..	268
Congo Paper ... ..	313



	PAGE
Congo Red ... ..	313
Conhydrine ... ..	113
Conicise ... ..	112
Conina ... ..	112
Coninae Hydrobromidum ... ..	113
Conium Maculatum ... ..	112
Conquinine Sulphate ... ..	252
Contractile Collodion ... ..	111
Convallamarin ... ..	113
Convallaria Majalis ... ..	113
Convallarin ... ..	113
Convulvulin ... ..	186
Cordial, Aletris ... ..	32
" Coca ... ..	103
" Kola ... ..	191
Coronillin ... ..	114
Corn Ergot ... ..	197
" Silk ... ..	196
" Smut ... ..	301
Cornutine ... ..	126
" Citrate ... ..	126
" Hydrochloridum ... ..	126
Corrosive Sublimate ... ..	163
Coryl ... ..	28
Coscinum Fenestratum ... ..	114
Cosmoline... ..	222
Coster's Paste ... ..	179
Coto Bark ... ..	114
Cotoin ... ..	115
Cotton Root Bark ... ..	153
" Seed Oil ... ..	153
" Sozoidol... ..	279
" Wool ... ..	152
" " Tissue ... ..	146
" " Alembroth ... ..	165
Cottons, Medicated ... ..	163
(See also Gossypia and Wools.)	
Couch Grass ... ..	298
" Granules, Belladonna... ..	64
Coumarinum ... ..	115
Coumaruma Odorata ... ..	115
Cranebill Root... ..	149
Crealbin ... ..	119
Cream, Lanolin ... ..	192
" Salicylic ... ..	19
Creasote ... ..	115
Creasote-Calcium Hydrochlorophosphate... ..	117
Creasotum ... ..	115
Creasoti Carbonas ... ..	117

	PAGE
Creasoti Olcas ... ..	117
Creatine ... ..	58
Cremor Eucalypti Composita ... ..	130
"    Zinci ... ..	306
Creoline ... ..	119
Creosal ... ..	116
Creosote ... ..	115
"    Phosphas ... ..	117
"    Valerianas ... ..	117
Cresalol ... ..	12
Creosotol ... ..	117
Cresol ... ..	12
"    Salicylas ... ..	12
Cresyl ... ..	117
Cresylic Acid ... ..	12
"    "    Paraphenylic Ether of ... ..	12
Creta Camphorata ... ..	80
Crinium Asiaticum ... ..	120
Crini Radix ... ..	120
Cristalline ... ..	30
Crocus of Mars ... ..	140
Croton Tiglium ... ..	119
Croton-Cloral Hydras ... ..	73
Crown Bark ... ..	97
Crystallin ... ..	112
Cuca ... ..	102
Culver's Root ... ..	102
Cuprea Bark ... ..	98
Cupreine ... ..	98
"    Sulphate ... ..	99
Cupri Arsonis ... ..	57
"    Aluminatum ... ..	34
"    Oleas ... ..	215
Cuprohemolum ... ..	120
Curara ... ..	120
Curare ... ..	120
Curcas ... ..	121
"    Purgans ... ..	121
Cutol ... ..	35
Cyanido of Mercury ... ..	100
"    "    Potassium... ..	248
"    "    Zinc ... ..	303
"    "    Zinc and Mercury ... ..	161
Cymonol ... ..	87
Cypripedin ... ..	121
Cypripedium pubescens ... ..	121
Cytisino ... ..	209
Cytisus Laburnum ... ..	209
"    Scoparius ... ..	279

D

	PAGE
Damiana ... ..	121
Darutue ... ..	272
Datura Alba ... ..	293
"  Futosa ... ..	283
"  Stramonium ... ..	282
Daturæ Folia ... ..	292
"  Semina ... ..	282
Daturina ... ..	...57, 283
Daturinæ Sulphas ... ..	292
Day's Ointment ... ..	168
Deadly Nightshade ... ..	62
Decocum Aletris ... ..	31
"  Azadirachta ... ..	61
"  Cinchona ... ..	98
"  Eucalypti Co. ... ..	131
"  Euphorbiæ Pilulifera ... ..	134
"  Granati Radicls ... ..	225
"  Hæmatoxyli ... ..	156
"  Hibisci ... ..	158
"  Holarrhænæ ... ..	158
"  Kudasala ... ..	159
"  Tritici ... ..	293
Delphia ... ..	281
Delphina ... ..	281
Delphinium Staphisagria ... ..	280
Depilatory, Sulphide of Calcium ... ..	80
Dermatol ... ..	69
Desoxyalizarin ... ..	45
Dextrin ... ..	107
Dextro-a-propyl piperidine ... ..	112
Dextroform ... ..	122
Dhatura ... ..	282
Diabetin ... ..	264
Diaphtherin ... ..	122
Diaphthol ... ..	122
Diastase ... ..	107
"  Pancreatic ... ..	218
Dibromgallic Acid ... ..	144
Dichloride of Ethidene ... ..	129
Dichloronaphthalene ... ..	310
Dicotoin ... ..	116
Diethyl Aldehydate ... ..	3
"  Oxide ... ..	25
Diethylene Diamine ... ..	242
Diethyl Sulphon-dimethyl-methane ... ..	280
Digestive Table Salt ... ..	220
Digitalia ... ..	122

# INDEX.

	PAGE
Digitalin, Crystallised	122
Digitalinum	122
Digitalis Purpurea	122
Digitonin...	123
Digitoxin	123
Di-iodoform	176
Dihydroxyl-nicotine	184
Diiodo-paraphenol Sulphonic Acid	279
Di-iodoresorcin	259
Diiodosalicyli Acid	20
Dimethyl Benzene	303
"    Ketone	30
"    Xanthine	292
Dinitro-Cellulose	111
Dionin	123
Dipterocarpi Balsamum	61
Dipterocarpus Alatus	61
Dipterocarpus Incanus	61
"    Turbinatus	61
Dita Bark...	32
Ditaine	32
Dithiochlorosalicylic Acid	20
Dithiocalcylate of Sodium	276
Dithymol Diiodide	55
Diuretin	292
Dobell's Tincture of Podophyllin	247
Dock	262
Donovan's Solution	58
Dover's Powder...	152
Drosera Rotundifolia	123
Dry Thiol	173
Duboisia Myoporoides	123
Duboisina Sulphas	123
Dulcin	264
Duodine	124
Duotal	118
Dusting Powders	188
"    Creolin	119
Dutch Liquid	128

## E

Easton's Syrup...	141
"    Pills	141
Eau de Goudron	245
"    Luce	38
Ecgonine...	104
Edible Hibiscus	158
Effervescent, see Granular.	

# INDEX.

	PAGE
Eka Iodoform ... ..	177
Elastic Gelatine Capsules ... ..	147
Elaterium ... ..	124
Elaterium ... ..	124
Elaterin ... ..	124
Elecampane ... ..	173
Electuarium Lenitivum ... ..	271
Elixir Antipyrin ... ..	228
" Camphoræ ... ..	81
" Monobrom. ... ..	81
" Casarea Sagraa ... ..	88
" Coea ... ..	103
" Erythroxyli et Guaranæ ... ..	155
" Guaranæ ... ..	155
" Papain ... ..	221
" Paraldehyde ... ..	223
" Phosphori ... ..	233
" Saccharini ... ..	263
" Sennæ ... ..	271
" Sodii Bromidi ... ..	272
Embelate of Ammonium ... ..	37
Embelia ... ..	124
" Ribes ... ..	124
Embelic Acid ... ..	124
Embelicæ Fructus ... ..	125
Embelic Myrobalan Fruit ... ..	125
Emetia ... ..	182
Emetin ... ..	182
Emetiza ... ..	182
" Hydrochloride ... ..	182
" Hydrobromide ... ..	182
Emodin ... ..	260
Emol ... ..	188
Emplastrum Ammoniaci cum Hydrargyro ... ..	159
" Belladonnæ ... ..	63
" Fluidum ... ..	63
" Porosum ... ..	63
" Calificiens ... ..	83
" Cantharides ... ..	84
" Capsici ... ..	85
" Cocainæ ... ..	104
" Daturæ ... ..	282
" Ferri ... ..	140
" Hydrargyri ... ..	159
" Menthol ... ..	200
" Picis ... ..	244
" Canadensis ... ..	244
" Plumbi ... ..	216
" Rhois ... ..	261

# INDEX.

	PAGE
Emplastrum Roborans ... ..	140
"  Scopolæ ... ..	270
"  Thuris ... ..	140
Empty Gelatine Capsules ... ..	147
Emulsio Olei Morrhuae ... ..	207
"  "  cum Calcii Hypophosphite ... ..	207
"  "  "  Calcii Lactophosphate ... ..	207
Empneumatic Oils ... ..	245
Enema Glycerini ... ..	149
Enterol ... ..	125
Enzymes, Pancreatic ... ..	218
Eosote ... ..	117
Ephedrine ... ..	209
Epsom Salts, Effervescing ... ..	277
Ergot of Rye ... ..	125
"  of Corn ... ..	301
Ergota ... ..	125
Ergotic Acid ... ..	127
Ergotin ... ..	126
Ergotinina ... ..	127
Ergotinae Citras ... ..	127
Eriodictyon Californica ... ..	303
"  Glutinosum ... ..	303
Erythrol Tetranitrate ... ..	127
Erythrophlæine ... ..	123
Erythrophlæinae Hydrochloridum ... ..	123
Erythrophlosum Guinconse ... ..	123
Erythroxylin ... ..	102
"  Coca ... ..	102
Erythroxylin Bolivannm ... ..	102
Eseridine ... ..	233
Eserine (Physostigmine) ... ..	237
Eserinae Salicylas ... ..	237
"  Sulphas ... ..	237
Esseeue of Beef ... ..	86
"  Chicken ... ..	86
"  Mutton ... ..	86
"  Rennet ... ..	225
Ethor ... ..	25
"  Absolute ... ..	25
"  Anæsthetic, Compound ... ..	26
"  Ethyl ... ..	25
"  Hydrarnyl ... ..	26
"  Hydriodio... ..	28
"  Hydrobromic ... ..	27
"  Ozonic ... ..	108
"  Rectified... ..	26
"  in Skin Medication ... ..	93
"  Sulphurio... ..	25

# INDEX.

	PAGE
Ethereal Liniment of Belladonna...	64
"    Oxygen ... ..	169
"    Tinctures ... ..	85
"    Tincture of Belladonna ... ..	64
"    "    Capsicum ... ..	85
"    "    Iodine ... ..	180
"    "    Menthol ... ..	200
"    "    Phosphorus ... ..	232
Ethidene Dichloride ... ..	123
Ethoxycaffeine ... ..	123
Ethyl Acetate ... ..	23
"    Carbamate ... ..	300
"    Ether ... ..	25
"    Dimethyl Carbinol ... ..	40
"    Sulphate of Sodium ... ..	273
"    Phenylcarbamate ... ..	300
(See also Ethyl.)	
Ethylate of Sodium ... ..	274
Ethylene Bromide ... ..	27
"    Diethyl, Ether of ... ..	3
Ethylic Alcohol... ..	30
Ethylidene Dichloride ... ..	123
Ethylirites Chloralurethane ... ..	300
Eucaine A ... ..	108
"    Hydrochloride A ... ..	108
"    B ... ..	109
"    Hydrochloride B ... ..	109
Eucalcibroth Gauze... ..	165
Eucalyptol ... ..	130
Eucalypti Folia... ..	129
Eucalypti Gummi ... ..	131
"    Oleum ... ..	129
Eucalyptia ... ..	130
Eucalyptine ... ..	130
"    Hydrochloride ... ..	130
Eucalyptol ... ..	131
Eucalyptus ... ..	129
"    Amygdalina ... ..	129
"    Gauze ... ..	130
"    Globulus ... ..	129
"    Honey ... ..	131
"    Oleosa ... ..	129
"    Resinifera ... ..	131
"    Rostrata ... ..	131
Eucasin ... ..	132
Euchinin ... ..	257
Euchlorin... ..	132
Eudoxin ... ..	214
Eugonia Chequen ... ..	50



*INDEX.*

	PAGE
Eugenia Jambolana ... ..	185
Eugenie Acid ... ..	132
Eugenol ... ..	132
Eugenolacetamid ... ..	133
Eulylyptol ... ..	131
Eulyptol ... ..	131
Euonymi Cortex ... ..	133
Euonymin ... ..	133
Euonymus Atropurpureus ... ..	133
Euphorbia Birta ... ..	133
"    Pilulifera ... ..	133
Euphorine ... ..	300
Euphthalmine ... ..	134
"    Hydrochloride ... ..	134
"    Salicylate ... ..	134
Euquinine ... ..	257
Europhen... ..	55
Eurybia Mosehata ... ..	134
Eurybin ... ..	134
Exacum Bicolor ... ..	134
Exalgin ... ..	134
Examination of Urine ... ..	309
Extract of Beef ... ..	86
"    "    Chicken ... ..	86
"    "    Mutton ... ..	86
"    "    Pond's ... ..	157
Extractum Abietis Canadensis Liquidum ... ..	1
"    Acalyphæ Liquidum ... ..	4
"    Aconiti ... ..	22
"    Adonidis Liquidum ... ..	24
"    Agarici ... ..	29
"    "    Liquidum ... ..	29
"    Aletris ... ..	31
"    "    Liquidum ... ..	32
"    Alstoniæ Liquidum ... ..	33
"    "    Constrictæ Liquidum ... ..	33
"    Apii Radicis Liquidum ... ..	49
"    "    Fructus Liquidum ... ..	49
"    Apocyni Liquidum ... ..	49
"    Arocer Liquidum ... ..	53
"    Baptisiæ Liquidum ... ..	62
"    Belladonnæ Viride ... ..	63
"    "    Folii Alcoholicum ... ..	63
"    "    Alcoholicum ... ..	63
"    "    Liquidum ... ..	63
"    "    Berberis ... ..	66
"    "    Aquifolli Liquidum ... ..	66
"    "    Liquidum... ..	66
"    "    Boldo Liquidum... ..	71

# INDEX.

							PAGE
Extractum	Byne	...	...	...	...	...	197
"	Cannabis Indicæ	...	...	...	...	...	83
"	Carnis	...	...	...	...	...	86
"	Liquidum	...	...	...	...	...	86
"	Cascara Amarga Liquidum	...	...	...	...	...	87
"	" Sagrada	...	...	...	...	...	87
"	" Liquidum	...	...	...	...	...	87
"	" Insuperum	...	...	...	...	...	88
"	Chekan Liquidum	...	...	...	...	...	89
"	Chimaphilæ Fluidum	...	...	...	...	...	90
"	Cimicifuga Liquidum	...	...	...	...	...	97
"	Cinchonæ Liquidum	...	...	...	...	...	99
"	" Flavæ Liquidum	...	...	...	...	...	99
"	Cocæ	...	...	...	...	...	103
"	" Liquidum	...	...	...	...	...	103
"	Collinsonæ Liquidum	...	...	...	...	...	111
"	Condurango Liquidum	...	...	...	...	...	112
"	Convallariæ	...	...	...	...	...	114
"	" Liquidum	...	...	...	...	...	114
"	Coto Liquidum	...	...	...	...	...	115
"	Damianæ Liquidum	...	...	...	...	...	121
"	Daturæ	...	...	...	...	...	282
"	" Ergotæ	...	...	...	...	...	126
"	" Fluidum	...	...	...	...	...	126
"	Eriodictyi Liquidum	...	...	...	...	...	303
"	Erythrophiceæ Liquidum	...	...	...	...	...	128
"	Erythroxyli Fluidum	...	...	...	...	...	103
"	Eucalypti Fluidum	...	...	...	...	...	129
"	Euonymi	...	...	...	...	...	133
"	" Liquidum	...	...	...	...	...	133
"	" Siccum	...	...	...	...	...	133
"	Euphorbiæ Piluliforæ	...	...	...	...	...	134
"	" Liquidum	...	...	...	...	...	134
"	Filiois Liquidum	...	...	...	...	...	143
"	Fuci Vesiculosi	...	...	...	...	...	144
"	" Liquidum	...	...	...	...	...	144
"	Galli	...	...	...	...	...	144
"	Gelsemii Aleoholicum	...	...	...	...	...	148
"	" Fluidum	...	...	...	...	...	148
"	Gossypii Fluidum	...	...	...	...	...	153
"	Granati Liquidum	...	...	...	...	...	225
"	Grindeliæ	...	...	...	...	...	154
"	Grindeliæ Liquidum	...	...	...	...	...	154
"	Guaranæ Fluidum	...	...	...	...	...	155
"	Gummi Rubri Liquidum	...	...	...	...	...	133
"	" Liquidum	...	...	...	...	...	156
"	Hamamelidis	...	...	...	...	...	157
"	" Liquidum	...	...	...	...	...	157
"	Hydrastis	...	...	...	...	...	160

# INDEX.

	PAGE
Extractum Hydratis Liquidum ...	163
" Ipecac. Liquidum ...	182
" Jaborandi... ..	184
" " Liquidum ...	184
" " Jalapæ ...	186
" Jambolanæ Liquidum... ..	186
" Juglandis Fluidum ...	187
" Kava-Kava Liquidum... ..	189
" Maidis Stigmatum Liquidum ...	196
" Malti ... ..	197
" " Liquidum ...	197
" " cum Oleo Morrhuæ ...	197
" Manacæ Liquidum ...	198
" Naregamie Liquidum... ..	183
" Pancreatis... ..	218
" Physostigmatis ...	237
" Phytolacæ Fluidum ...	238
" Pichi Liquidum ...	239
" Pini Pumilionis ...	242
" " Sylvestris ...	241
" Piscidie Liquidum ...	244
" Pomi Ferratam ...	136
" Ptychotis Liquidum ...	29
" Pulsatillæ Liquidum ...	251
" Qacbracho Liquidum ...	252
" Rhamni Frangulæ ...	260
" " " Liquidum ...	260
" Rhoeis Aromaticæ Liquidum... ..	261
" " Glabræ Fluidum ...	262
" " Liquidum... ..	261
" Ranicis Fluidum ...	263
" Salicis Nigræ Liquidum ...	265
" Santali Albi Liquidum ...	268
" Scopolæ Alcoholicum ...	270
" " Liquidum ...	270
" Sacalis Cornuti ...	172
" Sennæ Fluidum Deodoratum ...	271
" " Leguminum Liquidum ...	271
" " Liquidum ...	271
" Stillingiæ Fluidum ...	251
" Strophanthi ...	254
" Trifolii Liquidum ...	297
" Tritici Fluidum ...	299
" " Liquidum ...	299
" Turpethi ...	299
" Ustilaginis Liquidum ...	301
" Viburni Fluidum ...	302

## F

Fabiana Imbricata ...	238
Fabianine ...	238
Fahrenheit Scale ...	317
False Hellebore ...	24
" Pereira Brava ...	102
Febricide Pills ...	256
Febrifuge, Cinchona ...	99
Fehling's Solution ...	309
Ferrated Extract of Apples...	133
Ferratin ...	140
Ferri Acetas Liquor ...	136
" Albuminas ...	133
" et Ammonii Citras ...	133
"       " Sulphas ...	142
"       " Tartas ...	142
" Arsenas ...	137
" Benzoas ...	137
" Bromidum ...	137
" Carbonas Saccharata ...	137
" Chloridum ...	139
" Citras ...	138
" Fluoridum ...	13
" Glycerophosphas ...	235
" Hypophosphis ...	235
" Iodidum ...	138
"       " Saccharatum ...	138
" Lactas ...	14, 139
" et Magnesii Citras ...	142
"       " Sulphas ...	142
" Malas ...	136
" Oleas ...	215
" Oxalas ...	140
" Oxidum Rubrum ...	140
" Oxyhydras ...	140
" Oxyper sulphate... ..	142
" Perchloridum ...	139
" Peroxidum Hydratum...	140
" Phosphas... ..	140
" Picras ...	141
" Pyrophosphas ...	141
" et Quininæ Chloridum...	254
"       " Citras ...	254
" Quininæ et Strychninæ Citras	254
" Salicylas ...	142
" Sesquioxidum ...	140
" Sodio-Citro-Phosphas...	140
" et Strychninæ Citras ...	295

# INDEX.

	PAGE
Ferri Succinas ... ..	142
„ Sulphas ... ..	142
„ „ Exsiccata ... ..	142
„ „ Granulata ... ..	142
„ Valerianas ... ..	143
Ferrier's Snuff ... ..	70
Ferripyrrin ... ..	140
Ferropyrin ... ..	140
Ferro-Alumen ... ..	142
Ferro-Somatose... ..	86
Ferrostypine ... ..	135
Ferrum ... ..	135
„ Caseinatum ... ..	138
„ Rodactum ... ..	136
„ Tartaratum ... ..	142
Filicilic Acid ... ..	143
Filix Mas... ..	143
Fir-wood Extract ... ..	241
„ Oil ... ..	241
„ Wadding ... ..	242
Flexile Collodion ... ..	111
Flowers of Camphor ... ..	80
„ Sulphur ... ..	257
Fluid Extracts, <i>see</i> Extracts.	
„ Jequirity ... ..	2
Fluorescein ... ..	143
Fluorhydric Acid ... ..	13
Fluoric Acid ... ..	13
Fluorido of Ammonium ... ..	13
„ Iron ... ..	13
„ Quinine ... ..	13, 254
Fluosilicate of Sodium ... ..	274
Folia Hamamelidis ... ..	157
„ Hydrocotyles ... ..	167
„ Stramonii ... ..	282
Food, Pancreatised ... ..	220
Foods, Infants' ... ..	197
„ Peptonised ... ..	219
Formaldehydo ... ..	31
Formalin ... ..	31
Formaulide ... ..	143
Formic Aldehydo ... ..	31
Formol ... ..	31
Formyl, Terchloride of ... ..	94
Fossilino ... ..	222
Fowler's Solution ... ..	50
Franciscena Uniflora ... ..	198
Frangula Bark ... ..	260
Frangulin... ..	260

# INDEX.

	PAGE
French Chalk ... ..	188
" Oil of Turpentine ... ..	232
Fuchsine ... ..	44
Fucus Vasiculosus ... ..	143
Fuller's Earth ... ..	189
Fungus Lariois ... ..	28

## G

Gachkaran ... ..	260
Gadus Morrhuæ... ..	207
Gallum Aparine ... ..	144
Gallal ... ..	35
Gallanol ... ..	144
Gallate of Aluminum ... ..	35
Gallicine ... ..	17
Gallobromal ... ..	144
Galloctophenone ... ..	17
Gamboge ... ..	145
Gamgee's Tissue ... ..	146
Garcinia Indica ... ..	145
" Kola ... ..	190
" Mangoosten ... ..	144
" Morella ... ..	145
" Purpurea ... ..	145
Garcine Oleum ... ..	145
Gargarisma, Acidi Carbolicæ ... ..	8
" Chlori ... ..	273
Gastro Ferments ... ..	225
" Juice ... ..	225
Gaultheria Procumbens ... ..	145
Gaultheria Oleum ... ..	145
Gauzo Alembroth ... ..	165
" Aristol ... ..	55
" Carbolic ... ..	7
" and Cotton Wool Tissue ... ..	146
" Creolin ... ..	119
" Eucalambroth ... ..	165
" Eucalyptus ... ..	130
" Mercurio-Zinc Cyanide ... ..	161
" Pyoktanin ... ..	44
" Salicylic... ..	19
" Soziodol ... ..	270
" Sublimato ... ..	164
" Thymol ... ..	294
" Zinc Sulphite ... ..	307
Gauzes ... ..	146
Geddes' Extract of Hemlock Bark ... ..	1
Gelatine ... ..	146

# INDEX.

	PAGE
Gelatine Capsules ... ..	141
„ Coated Pills ... ..	241
„ Mass ... ..	147
Gelatinum ... ..	146
Gelato Glycerine ... ..	147
Gelatum Petroleum ... ..	222
„ Zinci ... ..	147
Gelidium Corneum ... ..	148
Gelsemin ... ..	148
Gelsemina ... ..	148
„ Amorphous ... ..	148
Gelseminæ Hydrochloridum ... ..	148
Gelsemium ... ..	148
„ Nitidum ... ..	148
„ Sempervirens ... ..	148
Geoline ... ..	222
Geosote ... ..	118
Geranin ... ..	149
Geranium Maculatum ... ..	149
German Ichthyol ... ..	173
„ Soft Soap ... ..	269
Gingelli Oil ... ..	272
Glacial Phosphoric Acid ... ..	234
Glacialine... ..	4
Glandulæ Lupuli ... ..	195
Glonoinc ... ..	212
Glucose ... ..	149
Glueine ... ..	149
Gluside ... ..	263
Glusidum... ..	263
Glusimide ... ..	263
Glutol ... ..	149
Glycerine... ..	149
„ Enemata ... ..	149
„ Jelly ... ..	147
„ Tinctures ... ..	151
Glycerinum ... ..	149
„ Abietis ... ..	1
„ Acidi Borici ... ..	5, 150
„ „ Carbolici ... ..	8, 150
„ „ Tannici ... ..	150
„ Aluminis... ..	150
„ „ et Acidi Tannici ... ..	150
„ cum Aqua Rosæ ... ..	150
„ Belladonnæ ... ..	63
„ Bismuthi Nitratis ... ..	150
„ Boracis ... ..	150
„ Ferri Dialysati ... ..	140
„ Hydrargyri Perchloridi ... ..	164



# INDEX.

	PAGE
Glycerinum Iodi ... ..	179
" Olei Ricini ... ..	151
" Pepsini ... ..	229
" Plumbi Sebacetatis ... ..	150
" Saponatum ... ..	151
Glycerinum Tragacanthæ ... ..	150
" Vitelli ... ..	151
Glycerites ... ..	151
Glyceritum Ferri Bromidi ... ..	137
" " Iodide ... ..	138
" Hypophosphitum Compositum ... ..	236
Glycerol ... ..	149
Glycerole of Ipecacuanha ... ..	151
" Nux Vomica ... ..	151
Glyceroles ... ..	151
Glyceryl Trinitrate ... ..	212
Glyco-Gelatine ... ..	147
Glyconin ... ..	151
Glycozone... ..	151
Glycyrrhiza Glabra ... ..	152
Glycyrrhizæ Radix ... ..	152
Glycyrrhizic Acid ... ..	152
Glycyrrhizin ... ..	152
Glycyrrhizinum Ammoniatum ... ..	152
Gua Powder ... ..	51
Guanese Ipecacuanha ... ..	183
Guaia-Lakri ... ..	288
Gokeroo ... ..	152
Gokhrn ... ..	152
Gold ( <i>See also</i> Aurum) ... ..	60
Golden Seal ... ..	166
Gonolobus Condurango ... ..	112
Gonorol ... ..	268
Goose Grass ... ..	144
Gossypii Radicis Cortex ... ..	153
Gossypium ... ..	152
" Acidi Benzoici ... ..	153
" " Borici ... ..	5
" Acid Carbolici ... ..	7
" " Chrysophanici ... ..	153
" " Tannici ... ..	153
" Aluminis ... ..	153
" Arnice ... ..	153
" Barbadosæ ... ..	153
" Camphoræ ... ..	153
" Cubebæ ... ..	153
" Ferri Perchloridi ... ..	139
" Fulminans ... ..	252
" Hamamelidis ... ..	154

# INDEX.

		PAGE
Gossypium	Herbaceum	163
"	Krameria	153
"	Menthol	200
"	Opii	153
"	Resorcin	153
"	Salicylicum	18
"	Soziodol	279
"	Stypticum	139
"	Thymol	294
Granati Cortex	...	225
"	Radicis Cortex	225
Granular Effervescing	Antipyrin	223
"	"	76
"	"	76
"	"	135
"	"	194
"	"	195
"	"	277
"	"	243
"	"	243
"	"	254
"	"	19
"	"	276
"	"	276
"	"	277
Granules	...	241
"	Belladonna Cough	64
"	de Digitalino	122
"	Podophyllin	247
"	Tonic Laxativo	64
"	"	247
Ground Nut	...	51
Green Iodide of Mercury	...	162
"	Soap	260
Grey Oil	...	160
Grindolia	...	153
"	Robusta	153
"	Squarrosa	154
Griffith's Mixture	...	133
Guaifacate of Lithium	...	104
Guaifacatin	...	118
Guaifacol	...	117
"	Benzoas	119
"	Carbonas	118
"	Carboxylic Acid	118
"	Phosphas	118
"	Valerianas	118
Guanino	...	75
Guarana	...	155

# INDEX.

	PAGE
Guaranine ... ..	75, 155
Guber Water ... ..	16
Gnethol ... ..	118
Gulancha ... ..	295
Gumchi ... ..	1
Gummi Eucalypti ... ..	131
.. Rubrum... ..	131
Gun Cotton ... ..	252
Gunjah ... ..	82
Gurjunæ Balsamum ... ..	61
Guttæ Daturinæ ... ..	282
.. Duboisinæ Sulphatis ... ..	124
.. Homatrophinæ... ..	60
.. Physostigminæ ... ..	237
.. .. cum Cocaina ... ..	237
.. .. Fortiores ... ..	237
.. Pilocarpinæ ... ..	185
Gynocardia Odorata ... ..	154
Gynocardis Oleum ... ..	154
Gynocardic Acid ... ..	155

## H

Hæmacytometer Solution ... ..	314
Hæmatin Albumin ... ..	156
Hæmatoxylin ... ..	156
Hæmatoxylon ... ..	156
.. Campechianum ... ..	156
Hæmoferrum ... ..	156
Hæmol ... ..	157
Hæmogallol ... ..	157
Hæmolium Bromatum... ..	157
.. Cupratum ... ..	157
.. Ferratum ... ..	157
.. Iodatam ... ..	157
.. Zinc ... ..	157
Hæmostatic Collodion ... ..	157
Halviva ... ..	111
Hamamelidin ... ..	190
Hamamelidis Cortex ... ..	157
.. Folia ... ..	157
Hamamelin ... ..	157
Hamamelis ... ..	157
.. Virginica... ..	157
Hard Paraffin ... ..	157
Hæchisch ... ..	221
Hæzeline ... ..	82
Heberden's Ink ... ..	157
	99

# INDEX.

	PAGE
Hebra's Diachylon Ointment	216
" Itch Ointment	238
Helcosol	69
Helenin	174
Helianthin	314
Hellebore, False	24
Hemidesmus Indicus	153
Hemidesmine	158
Hemlock	112
" Bark	1
" " Extract of	1
" Pitch	244
" Spruce	1
Heroin	204
Hexahydro—pyrazine	242
Hexamethylenetetramin bromethylate	72
Hexamethylenetetramine	300
Hibisci Capsula	158
Hibiscus Cancellatus	158
" Esculentus	158
Himrod's Curc	282
Hippurate of Lithium	194
" Sodium	274
Hoffmann's Anodyne	25
Holarrhena	158
" Antidysenterica	158
" Pubescens	158
Holocaïne	109
" Hydrochloride	109
Holy Herb	303
Homatropina	59
Homatropine Hydrobromidum	60
" Hydrochloridum	60
" Salicylas	60
Homolle's Digitalin	122
Homoquinine	98
Homotoluic Acid	15
Honduras Bark	87
Honey, Eucalyptus	131
Hongo Oil	247
Hordeum Distichum	197
Horsemint	293
Humulus Lupulus	195
Huxham's Tincture	99
Hydnocarpus Wrightiana	159
Hydracetin	159
Hydramyl	39
" Ethor	25
Hydrargyri Amido-propionas	160

# INDEX.

	PAGE
Hydrargyri et Ammonii Chloridum ... ..	164
" et Arsenii Iodidi Liquor ... ..	56
" Benzoas ... ..	160
" Carbolas... ..	160
" Chloridum Corrosivum ... ..	163
" " Mite ... ..	165
" Cyanidum ... ..	160
" Gallas ... ..	161
" Iodidum Flavum ... ..	162
" " Rubrum ... ..	161
" " Viride ... ..	162
" Naphtholacetas ... ..	162
" Nitras ... ..	163
" Nitratris Liquor Acidus ... ..	163
" Oleatum ... ..	215
" " cum Morphina ... ..	215
" Oleo-Palmitas ... ..	215
" Oxidum Flavum ... ..	163
" " Rubrum ... ..	163
" Oxy-sulphas ... ..	165
" Perchloridum ... ..	163
Hydrargyri Persulphas ... ..	165
" et Potassii Iodidum ... ..	162
" Salicylas... ..	165
" Stearas ... ..	216
" Subchloridum ... ..	165
" Fuccinimidum ... ..	165
" Tannas ... ..	165
" Thymolacetas ... ..	166
Hydrargyrum ... ..	160
" Ammoniatum... ..	160
" cum Creta ... ..	150
" Naphtholicum ... ..	162
Hydrastin ... ..	166
Hydrastina ... ..	167
Hydrastinae Hydrochloridum ... ..	167
Hydrastinina ... ..	167
Hydrastininae Hydrochloridum ... ..	167
" Tartaras Acida ... ..	167
Hydrastis... ..	166
" Canadensis... ..	166
" Rhizoma ... ..	166
Hydrate of Amylene ... ..	40
" Butyl-Chloral ... ..	73
" Chloral ... ..	91
" of Phenyl ... ..	6
Hydrated Creasote ... ..	115
Hydride of Amyl ... ..	39
Hydriodic Acid... ..	160

	PAGE
Hydriodic Ether ... ..	28
Hydrobromic Ether ... ..	27
Hydrochloric Ether ... ..	27
Hydrochinon ... ..	169
Hydrocinnamic Acid ... ..	15
Hydrocotone ... ..	115
Hydrocotyle Asiatica... ..	167
Hydrocotyles Folia ... ..	167
Hydrocyanic Acid ... ..	248
Hydrofluoric Acid ... ..	13
Hydrogen, Sulphuretted ... ..	79
Hydrogenii Peroxidum ... ..	168
Hydronaphthol... ..	211
Hydroquinine ... ..	93
Hydroquinone ... ..	169
Hydrous Peroxide of Iron ... ..	140
Hydrogen Peroxide, Solution of ... ..	168
Hydroxylamine ... ..	169
" Hydrochloridum ... ..	169
Hygrino ... ..	104
Hymenodictyon ... ..	170
" Exclsum ... ..	170
Hymenodictyonine .. ..	170
Hyoscina ... ..	171
Hyoscinae Hydriodas ... ..	171
" Hydrobromidum ... ..	171
" Hydrochloridum ... ..	171
Hyoscyamina ... ..	171
Hyoscyaminae Hydrobromidum ... ..	171
" Sulphas ... ..	171
Hyoscyamus Niger ... ..	170
Hyperosmic Acid ... ..	14
Hypnal ... ..	171
Hypnoacetin ... ..	172
Hypnone ... ..	3
Hypobromite Test ... ..	312
Hypochlorite Test ... ..	312
Hypodermic Injections, <i>see</i> Injections.	
Hypophosphites ... ..	234
Hypophosphorous Acid ... ..	234
Hypoquebrachino ... ..	252
Hyposulphite of Sodium ... ..	274

I

Ichthalbin ... ..	173
Ichthyol ... ..	173
" Artificial ... ..	173
Ilex Paraguayensis ... ..	75

	PAGE
Imido-succinate of Mercury ... ..	165
Inderjao Telk ... ..	158
„ Sherin... ..	158
Indian Barberry ... ..	66
„ Chiretta ... ..	190
„ Dye ... ..	166
„ Hemp ... ..	82
„ Liquorice ... ..	1
„ Pennywort ... ..	167
„ Sarsaparilla ... ..	158
„ Senna ... ..	270
„ Turmeric ... ..	166
Indigo-Carmine... ..	309
Inein ... ..	283
Infants' Foods... ..	107
Infusum Abri ... ..	2
„ Alstoniæ ... ..	33
„ Andrographis Compostum ... ..	193
„ Berberis ... ..	66
„ Cinchonæ Acidum ... ..	99
„ Cocæ ... ..	103
„ Ergotæ ... ..	125
„ Gokhru ... ..	162
„ Lupuli ... ..	195
„ Malti... ..	107
„ Menyanthes ... ..	201
„ Sennæ ... ..	271
Ingluvin ... ..	173
Iubaler, Chloride of Ammonium ... ..	37
<i>See also Vapores.</i>	
<i>Injectio, Hypodermic—</i>	
Injectio Acidi Carbolici ... ..	8
„ „ Sclerotici ... ..	127
„ Aconitinæ ... ..	23
„ Antipyrin ... ..	229
„ „ et Cocainæ ... ..	229
„ Apomorphinæ ... ..	50
„ Atropinæ ... ..	58
„ Caffeinæ ... ..	76
„ Cocainæ Hypodermica ... ..	106
„ Coninæ Hyrobromidum... ..	113
„ Curare ... ..	120
„ Ergotini ... ..	126
„ Ferri Perchloridi ... ..	139
„ Homatropinæ ... ..	60
„ Hydrargyri ... ..	160
„ „ et Cocainæ ... ..	161
„ „ Iodidi Rubri... ..	162
„ Hyoscine Hypodermica ... ..	171



	PAGE
Injectio Hyoscyamine Hypodermica ... ..	171
" Iodi Fortissima ... ..	179
" Morphine Hypodermica... ..	206
" " et Atropine ... ..	58, 204
" Nitroglycerini ... ..	213
" Physostigmatis ... ..	237
" Physostigminæ Salicylatis ... ..	27
" " Sulphatis ... ..	235
" Picrotoxini .. ...	240
" Pilocarpinæ Nitratis ... ..	185
" Quinine Hydrobromidum ... ..	254
" " Sulphatis ... ..	257
Insufflatio Iodoformi ... ..	175
Infusa Helenium... ..	173
Inulin ... ..	174
Inverted Sugar ... ..	264
Iodantipyrin ... ..	150
Iodate of Quinine ... ..	255
Iodia ... ..	282
Iodide of Ammonium... ..	37
" Ethyl ... ..	28
" Gold ... ..	61
" Iron ... ..	139
" Mercury, Green ... ..	162
" " and Potassium ... ..	162
" " Red ... ..	161
" " Yellow ... ..	162
" Sodium ... ..	275
" Starch ... ..	180
Iodine ... ..	173
" Solution, Carbolic ... ..	8
Iodised Oil ... ..	179
" Phenol... ..	8
" Starch ... ..	180
" Wino ... ..	180
" Wool ... ..	180
Iodocaffeino ... ..	177
Iodocrol ... ..	87
Iodoform Substitutes ... ..	310
Iodoformal ... ..	177
Iodoformiu ... ..	177
Iodoformogen ... ..	177
Iodoformum ... ..	174
" Aromaticum ... ..	175
" Emulsion ... ..	175
" Bituminatum ... ..	173
Iodo-Glycerine Solution ... ..	179
Iodol ... ..	177
Iodopyrin ... ..	180

# INDEX.

	PAGE
Iodo-Salicylic Acid ... ..	20
Iodosulphate of Cinchonine ... ..	101
Iodo-Theine ... ..	177
Iodo-Theobromine ... ..	292
Iodothymoformin ... ..	295
Iodothyrim ... ..	295
Iodozone ... ..	185
Iodphenin ... ..	51
Iodum ... ..	175
Ipecacuanha ... ..	188
" Pelladonna, and Nux Vomica Pills	61
" sine Emetina ... ..	184
" Goanese ... ..	183
Ipomoea Purga ... ..	186
Iron (See Ferrum) ... ..	135
Alum ... ..	142
Iridin ... ..	183
Iris Versicolor ... ..	183
Irisin ... ..	183
Isinglass, Japanese ... ..	148
" Plaster, Salicylated	18
Iso-butyl Nitrite ... ..	40
Ispaghul seeds ... ..	183
Itrol ... ..	54
Izal ... ..	184

## J

Jaborandi... ..	184
Jaboridino ... ..	184
Jaborine ... ..	184
Jalapa ... ..	186
Jalapin ... ..	186
Jalapa Resina ... ..	189
Jamaica Dogwood ... ..	244
Jambolante Semina ... ..	185
Jambul ... ..	185
" and Gluten Biscuits	186
Jambulin ... ..	182
Japaconine ... ..	22
Japaconitine ... ..	28
Japanese Isinglass ... ..	140
" Oil of Camphor	87
Jarisch's Ointment ... ..	1
Jatamansi... ..	186
Jatropha Curcas... ..	121
Jatrophic Acid ... ..	121
Jelly, Codeine and Glycerine ... ..	102

	PAGE
Jequirity ... ..	2
"    Fluid ... ..	3
Jeye's Disinfecting Fluid ... ..	119
Juglaudin... ..	187
Juglans ... ..	187
"    Cinerea ... ..	187
"    Regia ... ..	187
Jumble Beads ... ..	1
Jungle Seuna ... ..	270
Juniper Tar Oil ... ..	245
Juniperus Oxycedrus ... ..	245

# K

Kairin ... ..	187
Kaju ... ..	41
Kala Dhatura ... ..	282
Kaladana ... ..	187
Kamala ... ..	188
Kaolin ... ..	188
Kapas ... ..	153
Karanj ... ..	247
Kariyat ... ..	139
Karpo Karishi ... ..	66
Karwa Inderjao ... ..	158
Kava-Kava ... ..	189
Kavaine ... ..	189
Kavaline ... ..	189
Keratin ... ..	190
"    Coated Pills ... ..	241
Khauti Oil ... ..	159
Kieselguhr ... ..	189
Kingsett's Baeterfeldes ... ..	168
Kino, Bengal ... ..	73
"    Botany Bay ... ..	131
Kirmala ... ..	239
Kirmanli ... ..	266
Kobert's Extract of Ergot ... ..	127
Kokum Butter ... ..	145
Kola ... ..	190
"    Preparations ... ..	191
Kombie Acid ... ..	283
Kudasala ... ..	153
Krent ... ..	189
Kreosote ... ..	115
Kryofin ... ..	191

**L**

	PAGE
Laburnum ... ..	299
Lactate of Calcium ... ..	14
" Cocaine ... ..	106
" Iron ... ..	139
" Quinine ... ..	256
Lactic Acid ... ..	13
Lactopeptine ... ..	226
Lactophenin ... ..	191
Lactophosphate of Calcium, Syrup ... ..	14
" and Iron, Syrup ... ..	14
Lacto-Somatose ... ..	86
Lactylphenetidin ... ..	191
Lactyltropeine ... ..	191
Lævulose ... ..	264
Ladies Slipper ... ..	121
Lal Chandan ... ..	268
Lamelæ Atropinæ ... ..	59
" Cocainæ ... ..	106
" Homatropinæ ... ..	62
" Physostigminæ ... ..	257
Lanæ Adeps ... ..	191
Lanesin ... ..	102
Lano-Creolin ... ..	119
Lanolin ... ..	192
" Cream ... ..	192
" Ointment ... ..	192
" Pomade... ..	192
" Soap ... ..	192
Lanolinum cum Cocaina ... ..	192
" Hydrargyri ... ..	192
Lantana ... ..	192
Lantanine... ..	192
Lapis Calaminaris Præparatus ... ..	304
" Divinus ... ..	34
Lappa Minor ... ..	281
Laricic Acid ... ..	29
Laxative Granules, Tonic ... ..	64
Lead, <i>see</i> Plumbum.	
Legal's Acetone Test ... ..	312
Lemon Grass Oil... ..	42
Leptandra Virginica ... ..	192
Leptandrin ... ..	192
Levico Water ... ..	56
Levulinic Acid ... ..	49
Lebig's Extract... ..	86
Edguate Silk, Carboliced ... ..	7

# INDEX.

	PAGE
Ligatures, Carbolised Catgut...	7
" Chromic .....	11
Light Atropine ...	58
" Oil of Wood Tar...	245
Lily of the Valley ...	113
Lime, <i>see</i> Calcium.	
" Muriate of ...	77
" Salts ...	77
Linimentum Aconiti ...	22
" " Co. ...	22
" Ammoniaë ...	38
" Atropinæ ...	58
" Belladonnæ ...	61
" " Æthereum ...	64
" " Compositum: ...	64
" Camphora ...	82
" " Ammoniatum. ...	82
" Capsici ...	84
" Crinale ...	84
" Exsiccans ...	224
" Hydrargyri ...	159
" Menthol ...	210
" Opii Ammoniatum. ...	38
" Scopolæ ...	270
Lint .....	193
" Boric ...	4
" Carbolic ...	7
" Eucalyptus...	193
" Iodoform ...	176
" Iron Perchloride ...	139
" Marine ...	215
" Paper Fibre ...	193
" Salicylic ...	18
" Styptic ...	139
" Sublimata ...	164
" Thymol ...	193
Linteum ...	193
Liparin ...	193
Liquid Carbolie Acid ...	7
" Glucose ...	149
" Thiol ...	173
Liquor Abri ...	2
" Acidi Chromici...	11
" " Osnici ...	15
" " Pierici ...	16
" " Salicylici...	19
" Æthyl Bromidi...	27
" " Nitriti ...	26
" " Aluminii Acetici ...	33

# INDEX.

	PAGE
Liquor Ammoniaë ... ..	38
" " Fortior ... ..	38
" " Fortissimus ... ..	38
" Ammonii Arsenitis ... ..	56
" " Citratis ... ..	38
" " " Fortior ... ..	38
" Antisepticus ... ..	119
" Aristol Æthereus ... ..	55
" Arsenicalis ... ..	56
" Arsenici Bromatus ... ..	56
" " Hydrochlorici ... ..	56
" Arsenii et Hydrargyri Iodidi ... ..	58
" Atropinae Salicylas ... ..	59
" " Sulphatis ... ..	59
" Auri et Arsenii Bromidi ... ..	61
" " Hydrargyri Bromidi ... ..	61
" Bismuthi et Ammonii Citratis ... ..	67
" Saccharatus ... ..	93
" Brucinae ... ..	236
" Calcis Iodinatæ ... ..	181
" Bromo Chloral Co. ... ..	78
" Carbonis Detergens ... ..	244
" Carnis ... ..	86
" Cascara Aromaticus ... ..	83
" Caulophyllin et Pulsatillæ Co. ... ..	88
" Chrysarobini ... ..	51
" Epispasticus ... ..	84
" Euonymin et Bismuthi ... ..	133
" " et Cascara Sagrada ... ..	133
" " et Pepsinae ... ..	133
" Ferri Albuminati ... ..	136
" " Chloroxydi ... ..	131
" " Dialysatus ... ..	140
" " Hypophosphatis Fortis ... ..	235
" " Manganesi Peptonati ... ..	137
" " Peptonati ... ..	136
" " Peptonat Quinina ... ..	136
" " Perchloridi ... ..	131
" " " Fortior ... ..	139
" " Pernitratæ ... ..	140
" " Subsulphatis ... ..	142
" Gelseminæ Hydrochloridum ... ..	148
" Glorini ... ..	213
" Hamamelidis ... ..	157
" Hydrargyri Nitratis Acidus ... ..	163
" " Perchloridi ... ..	164
" Hypophosphitum Compositus ... ..	235
" Iodi ... ..	179
" " Fortis ... ..	178

	PAGE
Liquor Jaborandi ... ..	184
" Lithiæ Carbonas ... ..	194
" " Effervescens cum Sodii Arseniate ... ..	194
" Magnesii Boratis ... ..	5
" Morphinae Acetatis ... ..	204
" " Bimeconatis ... ..	205
" " Hydrochloridum ... ..	205
" " Sulphatis ... ..	205
" " Tartratis ... ..	206
" Nitroglycerini ... ..	213
" Pancreatis ... ..	218
" Pepsini ... ..	226
" Pepticus... ..	226
" Picis Carbonis... ..	244
" " Ligui ... ..	245
" Podophylli ... ..	247
" " cum Belkadonna et Strychnina ... ..	247
" " et Pepsinae ... ..	247
" Potassæ Arsenitis ... ..	56
" " Brandish ... ..	248
" Potassii Permanganatis ... ..	249
" Rusci Detergens ... ..	246
" Sennæ Concentratus ... ..	271
" Sodii Arseniatis ... ..	273
" " Carbolatis ... ..	9
" " Ethylatis ... ..	274
" Stillingia Compositus ... ..	281
" Strychninae Hydrochloridi... ..	285
" Thymol ... ..	294
" Thyroidii ... ..	295
" Trinitrini ... ..	213
" Zinci Chloridi ... ..	305
Liquores Concentrati ... ..	193
Liquorico ... ..	152
" " Indian ... ..	1
Listerino ... ..	293
Listerism ... ..	7
Lithia Water and Arseniate of Sodium ... ..	104
Lithii Benzoi ... ..	104
" Bromidum ... ..	104
" Carbonas... ..	104
" Citras ... ..	104
" " Effervescens ... ..	104
" Glycerophosphas ... ..	104
" Guaiacas ... ..	104
" Hippuras ... ..	104
" Salicylas ... ..	104
" Sulpho-ichthyolas ... ..	172
" Tartras Acida ... ..	195



# INDEX.

	PAGE
Lithium ... ..	194
„ Diuretin ... ..	202
Lithium-Ichthyol ... ..	172
Lithium-Soziodol ... ..	279
Litmus Paper ... ..	308
„ Pencils ... ..	308
Logwood ... ..	158
London Paste ... ..	224
Lopez Root ... ..	296
Loresin ... ..	195
Losophan... ..	195
Lotiforma, Sublimate... ..	164
Lotio Acid Carbolicæ ... ..	8
„ Ammonii Chloridi ... ..	36
„ Bismuthi... ..	70
„ Calaminæ ... ..	304
„ Calcii Sulphurati ... ..	79
„ Flava ... ..	164
„ Nigra ... ..	165
„ Rubra ... ..	307
Loxa Bark ... ..	97
Lozenges, <i>see</i> Trochisci.	
Lugol's Solution ... ..	179
Lund's Oil ... ..	8
Lupulinum ... ..	195
Lycetol ... ..	243
Lupulus ... ..	185
Lycopodium ... ..	189, 196
„ Clavatum ... ..	196
Lysidine ... ..	196
„ Acid Tartrate ... ..	196
Lysol ... ..	196

## M

MacDade's Succus Alterans ... ..	281
Magenta ... ..	44
Magistry of Bismuth ... ..	69
Magnesiæ Boratis, Liquor ... ..	5
„ Borocitras ... ..	5
„ Glycerophosphas ... ..	196
„ Sulphas Effervescens ... ..	277
„ Sulphis ... ..	21
Magnesium Silicate ... ..	188
Maidis Stigmata ... ..	196
„ Ustilago ... ..	197
Maize Ergot ... ..	197
Majun ... ..	82
Male Fern ... ..	143

	PAGE
Malakin ... ..	127
Malate of Iron Wine ... ..	133
Maltpepsin ... ..	226
Malt ... ..	197
" Extract ... ..	197
" " Combinations... ..	197
" " Estimation of ... ..	313
Maltose ... ..	197
Maltum ... ..	187
Manaca ... ..	195
Mandarin Orange ... ..	314
Manganeshii Hypophosphis ... ..	198
" Oxidum Preparatum ... ..	198
" Phosphas... ..	198
" Sulphas ... ..	198
Manganeseum ... ..	198
Manganeshii Sulphas ... ..	198
Manganous Phosphate ... ..	198
" Sulphate ... ..	198
Mangosteen ... ..	144
Mangostine ... ..	144
Mannitol Hexanitrate ... ..	199
Margarone ... ..	222
Margosa Bark ... ..	61
Marigold ... ..	80
Marine Lint ... ..	245
Marking Nut-Tree ... ..	41
Marrol ... ..	193
Marsh Trefoil ... ..	201
Mass, Gelatine ... ..	147
Maté ... ..	75
May Apple ... ..	246
Mayer's Reagent ... ..	314
Meadow Saffron ... ..	110
Ment Extract ... ..	83
" Juice ... ..	86
Medicated Cotton ... ..	133
" Gauzes ... ..	143
Medullin ... ..	199
Medulladen ... ..	199
Mella Azadirachta ... ..	61
Melilotus Officinalis ... ..	115
Molalanea Leucadendron ... ..	77
Melissa Oil ... ..	42
Menispermia ... ..	199
Mentispermum Canadense ... ..	199
Mentha Arvensis... ..	199
" Piperita ... ..	199

	PAGE
Mentha ... ..	201
Menthiodol ... ..	200
Menthol ... ..	199
"    Combinations ... ..	203
"    Cones ... ..	200
"    Pencils ... ..	200
"    Valerianas ... ..	200
"    Wool ... ..	200
Mentholeate ... ..	200
Menthylie Alcohol ... ..	199
Menyanthes ... ..	201
"    Trifoliata ... ..	201
Menyanthin ... ..	201
Mercur-B-Naphthol Acetate ... ..	162
Mercurio Vegetal ... ..	194
Mercurio-Zinc Cyanide ... ..	161
Mercury, <i>see</i> Hydrargyrum.	
Mercury-Sozoiodol ... ..	279
Meta-di-Hydroxybenzene ... ..	258
Meta-iodo ortho-oxyquinoline-ana-sulphonic Acid ... ..	195
Metalddehyde ... ..	223
Metaphosphoric Acid ... ..	234
Methacetin ... ..	201
Methyl-Acetanilid ... ..	194
Methyl-Arbutin ... ..	52
Methylal ... ..	202
Methylated Ether ... ..	26
"    Spirit ... ..	30
Methyl Chloridura ... ..	202
Methyl-Conine ... ..	111
Methylene.. ... ..	203
"    Bichloride ... ..	203
"    Blue ... ..	44
"    Dimethyl Ether of ... ..	202
Methyl, Ether Pyroantechin ... ..	117
Methyl-guanido-Acetic Acid ... ..	86
Methyl-Morphine ... ..	109
Methyl-Orange ... ..	314
Methyl-Phenol ... ..	12
Methyl-Salicylate ... ..	146
Methyl-Theobromine ... ..	75
Methyl-Violet ... ..	44
Methylie Alcohol... ..	50
Methy-ticin ... ..	189
Metric System ... ..	315
Menphrosine ... ..	93
Microcidine ... ..	211
Migran'in ... ..	209
Millon's Reagent ... ..	313

# INDEX.

	PAGE
Mistura Acidi Carbolici ... ..	8
" Amyl Nitritis ... ..	40
" Apomorphinæ et Terebinth... ..	50
" Bismuthi et Pepsinæ Composita ... ..	63
" Creasoti... ..	116
" Exalgin... ..	135
" Ferri Aromatica ... ..	136
" " Composita ... ..	138
" Grindeliæ ... ..	154
" Olei Santali ... ..	263
" Sennæ Composita ... ..	271
" Smilacis Composita ... ..	281
" Terebinthinæ Chiaæ ... ..	230
Mollinum ... ..	269
Momordicin ... ..	124
Monarda Pinnetata ... ..	203
Monkey Bread Tree ... ..	23
Monobromacetanilid ... ..	46
Monobromphenylacetamide ... ..	46
Monobromide of Camphor ... ..	81
Mono-chlorethyl Chloride ... ..	129
Monophenylamine ... ..	43
Monsell's Salt ... ..	142
" Solution ... ..	142
Morphia ... ..	203
Morphina .. ..	2 3
Morphinæ Acetas ... ..	204
" Diacetat ... ..	204
" Hydrobromidum ... ..	204
" Hydrochloridum... ..	204
" Lactas ... ..	205
" Meconas ... ..	205
" Phthalas ... ..	205
" Sulphas ... ..	205
" Tartaras ... ..	205
Morphine... ..	203
Morrhinæ Oleum ... ..	207
Morrhule Acid... ..	207
Morrhine ... ..	207
Morrhinol... ..	203
Morton's Iodo Glycerine Solution ... ..	170
Mountain Pine Oil ... ..	242
Mudar ... ..	203
Mugrela ... ..	212
Mulder's Test ... ..	309
Mulls ... ..	203
" Plaster, <i>see</i> Plaster Mulls.	
" Salve, <i>see</i> Salve Mulls.	

	PAGE
Muriate of Lime ... ..	77
Muscarina ... ..	203
Muscarinæ Nitræ ... ..	209
" Sulphas ... ..	209
Mutton, Essence of ... ..	86
" Extract of ... ..	86
Mydrine ... ..	209
Myelin ... ..	199
Mygranin... ..	209
Myrcia Cerifera ... ..	209
Myrcin ... ..	209
Myrobalan ... ..	291
Myrrh, Camphorated ... ..	80
Myrtus, Chekan ... ..	89

N

Naphtha Wood ... ..	30
Naphthalene ... ..	210
" Tetrachloride ... ..	210
Naphthalinum ... ..	210
" Precipitatum ... ..	210
Naphthalol ... ..	211
Naphthol... ..	210
" cum Camphora ... ..	210
" Carbonic Acid ... ..	211
Naphthol Mercury ... ..	162
" Salol ... ..	211
Naphthyl Alcohol ... ..	210
Narceina ... ..	206
Narcotina... ..	206
Nardostachys Jatamansi ... ..	187
Narzamia Alata ... ..	183
Naregamine ... ..	183
Narvel ... ..	392
Narvel ... ..	273
Nativelle's Crystallised Digitaline ... ..	123
Sodium Sulpho-ichthyolicum ... ..	173
Nebula Acidi Lactici ... ..	14
" Ferri Perchloridi ... ..	139
Nectandra ... ..	114
Neokola ... ..	101
Nepaul Pepper ... ..	84
Nessler's Reagent ... ..	314
Nicotina ... ..	212
Nicotiana Tabacum ... ..	212
Nicotine Tartras ... ..	212
Neurodin... ..	212

	PAGE
Nigella Sativa ... ..	212
Naphthol Camphor ... ..	81
Night blooming Cereus ... ..	74
Nim Bark ... ..	61
" Tree ... ..	61
Nirvanin ... ..	212
Nitrated Paper ... ..	293
Nisot ... ..	249
Nitrate of Cocaine ... ..	107
" Amyl ... ..	33
" Butyl ... ..	39
" Ethyl ... ..	26
" Propyl ... ..	33
Nitroglycerinum ... ..	212
Nitrophenol ... ..	93
Nosophen ... ..	212
Nitroso-Nitrate of Mercury ... ..	311
Nutritive Extract ... ..	86
" Wine ... ..	86
" " with Iron ... ..	86

O

Onkum ... ..	245
Obstetric Cones ... ..	104
Oil of Camphor ... ..	80
" Cotton Seed ... ..	153
" Turpentine ... ..	241
" " French ... ..	232
" " Hydrate of ... ..	290
" of Wintergreen, Synthetic ... ..	146
See also Olea.	
Oiled Silk Protective ... ..	7
Oils, Empyreumatic ... ..	245
Ointment Lanolin ... ..	192
Ointments, see Unguenta	
Okra ... ..	158
Oleanodyne ... ..	215
Oleata ... ..	214
Oleates ... ..	214
Oleatum Aconitinae ... ..	23
" Atropinae ... ..	214
" Cocaine ... ..	214
" Hydrargyri ... ..	215
" " cum Morphina ... ..	215
" Morphinae ... ..	204, 214
" Quinine ... ..	214
" Strychninae ... ..	214

	PAGE
Oleatum Veratriuæ ... ..	214
" Zinci ... ..	216
Oleature of Bhawchee ... ..	66
Oleic Acid... ..	214
Oleite ... ..	216
Oleocreasote ... ..	117
Oleo-Resina Capsici ... ..	85
" Lupulini ... ..	195
Oleum Ajowan ... ..	29
" Arachis ... ..	51
" Aristol ... ..	55
" Azadirachtæ ... ..	61
" Betule Albæ ... ..	246
" Cadinum ... ..	245
" Carbolicum ... ..	8
" Cincereum ... ..	160
" Cinnamomi ... ..	101
" Crotonis ... ..	119
" Cum Cocaina ... ..	104
" Eucalypti ... ..	129
" Fagi Pyroligneum ... ..	246
" Garcina... ..	145
" Gaultheriæ ... ..	145
" Gynocardia ... ..	154
" Homatropinæ ... ..	60
" " cum Cocaina ... ..	60
" Iodi ... ..	179
" Jatamansi ... ..	187
" Lemon Grass ... ..	42
" Menthe Piperitæ ... ..	201
" Morrhuæ ... ..	207
" " cum Æthere .. ..	26
" " cum Creasoto ... ..	207
" " cum Quinina ... ..	214
" " Phosphoratum ... ..	207, 232
" Phosphoratum ... ..	232
" Picis Rectificatum ... ..	245
" " Pini... ..	242
" " Sylvestris... ..	241
" Pongamiæ ... ..	247
" Ptychotis ... ..	29
" Rusci ... ..	246
" Santali ... ..	207
" Staphisagria ... ..	251
Onum ... ..	29
" Oil of ... ..	29
" Water ... ..	29
Ophelia Chirata ... ..	91
Ophelic Acid ... ..	91



# INDEX.

	PAGE
Opium, Indian ... ..	207
Orange Root ... ..	166
Orexin ... ..	217
" Hydrochloridie ... ..	217
" Tannate ... ..	217
Orphol ... ..	67
Orthoform ... ..	217
" Hydrochloridum ... ..	217
Orthomonoehlorphenol ... ..	10
Ortho-oxychinolin-meta-sulphonate ... ..	122
Ortho-oxybenzilie Alcohol ... ..	264
Orthophenol-sulphonic Acid ... ..	10
Osmate of Potassium ... ..	15
Osmic Acid ... ..	14
Osmium Tetroxide ... ..	14
Quabain ... ..	284
Quabaio ... ..	284
Ourari ... ..	120
Oxalates in Urine ... ..	309
Oxyammonia ... ..	169
Oxychinaseptol ... ..	122
Oxychinoline-Ethyl Hydride ... ..	187
" " Hydrochloridum ... ..	187
Oxygen ... ..	169
" Ethereal... ..	169
Oxygenated Water ... ..	169
Oxymethyl Acentanilid ... ..	201
Oxynaphthoic Acid ... ..	211
Oxysparteina ... ..	250
Oxytoluyltropceine ... ..	53
Ozokerine .. ..	222
Ozone Papers ... ..	249
Ozonic Ether ... ..	168
Ozonised Ointment ... ..	168

## P

Pale Bark ... ..	97
Pambotano ... ..	217
Pan Supari ... ..	53
Pancreatic Diastase ... ..	218
" Emulsion ... ..	219
" Enzyzmes... ..	218
" Juice ... ..	218
Pancreatine ... ..	220
Pancreatised Food ... ..	256
Pao do Cobra ... ..	220
Papain ... ..	220
Papaver Somniferum ... ..	207

# INDEX.

	PAGE
Papaverina ... ..	620
Papaw Juice ... ..	310
Papayotin ... ..	222
Paper Fibre Lint ... ..	193
Papier Iodogene ... ..	179
Papoose Root ... ..	88
Para-acet-anisidin ... ..	201
Para-acet-phenetidina ... ..	227
Para-allyl-phenol ... ..	89
Parocoto ... ..	114
Paraeotoin ... ..	115
Para-cresol Salicylate ... ..	12
Paracresotate of Sodium ... ..	275
Paracresotic Acid ... ..	275
Para-di-oxy-benzene ... ..	169
Paraffin Wax ... ..	221
Paraffinum Durum ... ..	221
" Molle] ... ..	221
Paraform ... ..	31
Paraformic Aldehyde ... ..	31
Paraglobuliu ... ..	1
Paraguay Tea ... ..	75
Paraldehyde ... ..	223
Pararosaniline Hydrochloride ... ..	44
Paraphenetol Carbamide ... ..	264
Para tolyldimethylpyrazolon ... ..	296
Parrish's Syrup ... ..	141
Paroleine ... ..	221
Parson's Local Anesthetic ... ..	96
Parsley ... ..	48
Pasque Flower ... ..	250
Pasta Abri ... ..	2
" Amyli Iodidi ... ..	180
" Caustica ... ..	224
" Costeri ... ..	179
" Londinensis ... ..	224
" Viennensis ... ..	224
Pasta Zinci Chloridi ... ..	224
" " " cum Opio ... ..	224
Pastm ... ..	224
Pastillus Acidi Carbolici ... ..	8
" Bismuthi Carbonatis ... ..	67
" " " cum Morphina Acetate ... ..	67
" Cocm ... ..	103
" Cocaine Hydrochloridi ... ..	107
" " " cum Morphina ... ..	107
" Codeinm ... ..	110
" Iodoformi ... ..	176
" Thymol ... ..	234

# INDEX.

	PAGE
Faullinia Sorbilla	155
Favesi's Collodion	111
Favy's Solution	309
Pearl-coated Pills	24
Pearsons's Solution	273
Pedaliu Murex	152
Pelletierina	224
Pelletierina Hydrobromidum	225
" Sulphas...	225
" Tannas...	224
Pelliculine	192
" Powder	189
Pellotin	43
" Hydrochloride	43
Pental	41
Pentylene	39
Pepper	243
Peppermint Camphor	199
Pepsin	225
Pepsina Poroi	235
Pepsinum Saccharatum	226
Peptone	226
" Test	313
Peptonised Beef...	226
" " Jelly	219
" " Tea	219
" Suppositories	226
" Enemata	219
" Foods	218
" Gruel	219
" Milk	219
" Milk Gruel	219
" Soup	219
Peptonising Powders	218
Peptonoids	226
Periodates, Weaver's..	181
Periodo-sulphate of Thallino	291
Perles, Apiol	49
" Carbolic Acid	9
Permanganate of Caloium	78
" " Potassium...	249
" " Sodium	249
" " Zino...	306
Peronine...	206
Perosmic Acid	14
Peroxide of Hydrogen...	163
Persulphate of Ammonium	37
Pessaries, Coccalno	104
" Couline	113

# INDEX.

	PAGE
Petrolatum ... ..	221, 223
"    Molle ... ..	221
Petroleum Jelly ... ..	222
"    Soap ... ..	223
"    Spirit ... ..	39
Petroselinum Sativum ... ..	43
Peumus Boldus ... ..	70
Pharbitis Nil ... ..	187
Pharbitisin ... ..	187
Phellandrine ... ..	131
Phenacetin ... ..	237
Phenacetinum .. ..	237
Phenatol... ..	45
Phenazone ... ..	228
Pnenazonnm ... ..	228
Phenic Acid ... ..	6
"    Alcohol ... ..	6
Phenocoll ... ..	231
"    Hydrochloridum... ..	231
"    Salicylate ... ..	231
Phenol ... ..	6
"    Absolute ... ..	6
"    Camphor ... ..	81
"    Cocaine... ..	107
"    Iodised ... ..	8
"    Mercury... ..	160
"    Phthalein ... ..	314
"    Sodique... ..	9
Phenosalyl ... ..	9
Phenylacetamide ... ..	45
Phenylacetic Acid ... ..	15
Phenylamine ... ..	43
Pheny-Benzamide ... ..	65
Phenyl dihydro-chinazolin Hydrochloridum ... ..	217
Phenyl-dimethyl-pyrazolone... ..	229
Phonyl Ether of Salicylic Acid ... ..	265
Phenyl Hydrate ... ..	6
Phenyle, Soloblo ... ..	119
Phenyl-formamide ... ..	143
Phenylhydrazine Hydrochloridum... ..	310
"    Levulinic Acid ... ..	48
"    Test ... ..	314
Phenyl-Methyl-Acetono ... ..	3
Phenyl-propionic Acid ... ..	15
Phenyl-Salicylate ... ..	265
Phenyl-Urothane ... ..	300
Phloridzin ... ..	231
Phlorizin... ..	231
Phloroglucin ... ..	317

	PAGE
Phosphate of Bismuth...	67
Phosphates in Urine ...	309
Phosphoric Acid ...	214
Phosphorised Oil ...	232
Phosphorus ...	231
" Amorphous ...	233
" Canton's ...	79
" Pills ...	233
Photoxylm ...	111
Phthalate of Caffeine ...	78
" Morphine ...	265
Phyllanthus Eublica...	125
Physic Nut ...	121
Physostigma Venenosum ...	234
Physostigmatis Semina ...	236
" Sulphas ...	297
Physostigmina ...	237
Physostigminæ Salicylas ...	237
Phytalbumosa ...	2
Phytolacca Decandra ...	238
Phytolacæ Radix ...	238
Phytolaccin ...	238
Pichi ...	248
Picramnia Bark ...	87
Picrate of Ammonia ...	16
Picric Acid ...	16, 311
" Pellets ...	311
Pieropodophyllin ...	246
Pieropodophyllic Acid ...	246
Pierorrhiza Kurrooa ...	239
Picrotin ...	239
Picrotoxin ...	239
Picrotoxinin ...	239
Picrotoxinum ...	239
Pigmentum Chrysarobini ...	52
" Ferri Perchloridi Fort ...	131
" Iodi ...	139
" Menthol ...	179
" Papain ...	201
" Picis cum Iodo ...	220
" Picrotoxin ...	179
" Picrotoxin ...	240
Pills ...	240
" <i>see</i> Pilulæ	
Pilocarpi Folia ...	184
Pilocarpidine ...	184
Pilocarpina ...	185
Pilocarpine Carbolas ...	185
" Nitras ...	185

	PAGE
Pilocarpinae Hydrochloridum ... ..	185
" Phenas ... ..	185
" Salicylas .. ..	185
Pilocarpus Pennatifolius ... ..	184
Pilula Acidi Arseniosi ... ..	56
" Carbolic ... ..	9
" Aloin, Belladonnae, et Strychninae ... ..	64
" Aphrodisiaca ... ..	121
" Atropinae .. ..	59
" Arsenic et Quinine ... ..	59
" Calci Sulphidi ... ..	79
" Camphorae ... ..	80
" Cascara Sagrada ... ..	83
" Coleinae Composita ... ..	110
" Coninae ... ..	113
" Creasoti ... ..	116
" Ergotinae ... ..	123
" Composita ... ..	126
" cum Quinina ... ..	126
" Euonymi ... ..	133
" Febricida ... ..	256
" Ferri Arsenicalis ... ..	56
" (Elaeod.) ... ..	138
" Carbonatis ... ..	138
" Iodidi ... ..	138
" Quinine et Strychninae ... ..	141
" Hydrargyri ... ..	159
" Iodidi Flavi ... ..	162
" Iubri ... ..	161
" Viridis ... ..	163
" Eubichloridi Composita ... ..	165
" Iodoformi ... ..	176
" Ipecacuanhae, Belladonnae, et Nucis Vomicae ... ..	64
" cum Scilla ... ..	182
" Phosphori, B. P. ... ..	232
" Pepsinæ Liquidæ ... ..	215
" Podophylli ... ..	247
" cum Belladonna et Strychnina ... ..	247
" et Pepsinae .. ..	247
" Potassii Permanganatis ... ..	249
" Quinine ... ..	236
" Terebinthinae Chire ... ..	290
" et Zinci ... ..	291
" Trium Phosphatum ... ..	141
" Warburgii ... ..	257
" Pine Wool Felt ... ..	242
" Pinoli ... ..	242
" Pinus ... ..	241

	PAGE
Pinus Canadensis ... ..	1, 243
" Maritima ... ..	232
" Picea ... ..	244
" Pumilio ... ..	242
" Sylvestris ... ..	242
Piper Betle ... ..	53
" Methysticum ... ..	189
" Nigrum ... ..	243
Piperazine ... ..	243
" Salicylas ... ..	243
" Water ... ..	243
Piperidine... ..	243
" Guaiacolate ... ..	118
Piperina ... ..	243
Piperonal ... ..	243
Pimenthol ... ..	190
Pipsissewa... ..	90
Piscidia Erythrina ... ..	244
Piscidin ... ..	244
Pistacia Terebinthus ... ..	230
Pitayo Bark ... ..	93
Pitchblende ... ..	316
Pix ... ..	244
" Burgundica ... ..	244
" Canadensis ... ..	244
" Carbonis Liquida Præparata ... ..	244
" Liquida ... ..	244
Pixol ... ..	245
Plantago Ovata ... ..	183
Plasters, see Emplastra.	
Plaster Mulls ... ..	209
" " Rolladonna ... ..	63
" " Chrysarobin ... ..	52
" " Iodoform ... ..	176
" " Mercury... ..	160
" " " with Carbolic Acid ... ..	160
" " " Oxide of Zinc ... ..	160
" " Resorcin ... ..	259
" " Salicylic ... ..	19
" Salicylated ... ..	18
Plumbi Oleas ... ..	216
" Stearas ... ..	216
Podophylli Resina ... ..	249
Podophyllic Acid ... ..	248
Podophyllin ... ..	249
Podophyllotoxin ... ..	249
Podophyllum Emodi ... ..	249
" Peltatum ... ..	249



	PAGE
Poison Ivy ... ..	261
" Oak ... ..	261
Poke Root ... ..	233
Polyborate of Sodium... ..	47
Polyporus Officinalis ... ..	28
Polysolve... ..	216
Pomade, Chrysarobine ... ..	51
" Lanolin ... ..	192
Pomegranate ... ..	224
Pond's Extract ... ..	157
Pongamia Glabra ... ..	247
Pongamiae Oleum ... ..	247
Populus ... ..	264
Porcelain Clay ... ..	188
Porous Belladonna Plaster ... ..	63
Potash Alum ... ..	33
Potassae Arsenitis Liquor ... ..	53
Potassii Bichromas ... ..	248
" Benzoas ... ..	243
" Cantbaridas ... ..	248
" Chloras ... ..	243
" Cobalto-Nitris ... ..	242
" Cyanidum ... ..	243
" Hypophosphis ... ..	235
" Nitras ... ..	249
" Osmas... ..	15
" Permanganas ... ..	249
" Phosphas ... ..	249
" Silicas ... ..	277
" Soziodol ... ..	279
" Succinas ... ..	250
" Sulphis ... ..	250
" Telluras ... ..	250
Potassio Cuprie Tartrate Solution ... ..	309
Potassium and Aluminum Sulcylate ... ..	250
" Ferrocyanide Pellets ... ..	311
" " Solution ... ..	311
Potassio-Ferrie Tartrate ... ..	142
" Mercuric Iodide ... ..	162
" " Pellets ... ..	311
" " Solution ... ..	314
" " Test... ..	310
Poultices, see Cataplasmae.	
Powdered Malt ... ..	197
Powders, Peptonising ... ..	213
Prayer Heads ... ..	1
Precipitated Iodoform... ..	174
" Naphthalin ... ..	210

	PAGE
Precipitated Sulphur ...	239
Prepared Coal Tar ...	244
Propyl Nitrite ...	39
Propylamine ...	297
Protargol... ..	54
Protective Oil Skin ...	7
Proto-iodide of Mercury ...	162
Prunus Virginiana ...	250
Prunin ... ..	250
Pseud-Aconine ...	22
Pseud-Aconitine ...	22
Pseudo-Tropine ...	171
Psoralea Corylifolia ...	65
Pterocarpus Santalinus ...	263
Ptychotis ... ..	23
"    Ajowan ... ..	293
"    Oleum... ..	29
Pulsatilla... ..	250
"    Camphor ... ..	251
Pulsatilla et Caulophyllin Liquor ...	88
"    Pilula ... ..	89
Pullus Gallinaceus ... ..	173
Pulvis Bismuthi Compositus ...	70
"    Bouducellae ... ..	71
"    Calotropis ... ..	203
"    Cinchonina Compositus ...	101
"    Cinnamomi Co. ... ..	101
"    Creasoti et Amyli ... ..	116
"    Elatarii Co. ... ..	124
"    Hydrocotylea ... ..	167
"    Ipecacuanha Compositus ...	152
"    "    sine Emotina ... ..	181
"    Jalapa Co. ... ..	183
"    Kalandana Compositus ...	153
"    Salicylicus cum Talco ... ..	14
"    Salinus Anticholeraicus ...	274
"    Soda Tartaratus Effervescens ...	277
"    Stramonii Compositus ... ..	252
Pumiline ... ..	242
"    Extract ... ..	242
Pumilio Pine Oil ... ..	242
"    "    Soap ... ..	242
Punica Granatum... ..	224
Pure Terebene ... ..	289
Purging Agaric... ..	29
Purple Clover ... ..	297
Pussy Willow ... ..	263
Pyoktaula ... ..	44

# INDEX.

	PAGE
Pyoktannin Blue ... ..	44
"    Yellow ... ..	44
Pyraloxin ... ..	17
Pyramidon ... ..	231
Pyrantiu ... ..	251
Pyretine... ..	45
Pyridina ... ..	251
Pyrocatechin, Methyl Ether of ... ..	117
Pyrodin ... ..	159
Pyrogallate of Bismuth ... ..	69
Pyrogallic Acid ... ..	16
Pyrogallol ... ..	16
Pyrogen-tisic Acid ... ..	169
Pyroligneous Oils ... ..	245
Pyroxilic Spirit... ..	30
Pyroxylin ... ..	252
Pyrozone... ..	163
Pytrol ... ..	177

## Q

Quassin ... ..	267
Quebrachamino... ..	253
Quebrachino ... ..	253
Quebracho ... ..	252
Queen's Root ... ..	281
Queensland Fever Bark ... ..	31
Quineti Sulphas ... ..	99
Quinetum ... ..	99
Quinidine Sulphas ... ..	252
Quinidine Sulphate ... ..	100, 252
Quinina ... ..	253
Quininae Arsenas ... ..	253
"    Bisulphas ... ..	257
"    Carbolas ... ..	253
"    Carbonas ... ..	254
"    Chloras ... ..	254
"    Citras... ..	254
"    Disulphas ... ..	256
"    Fluoridum ... ..	13, 254
"    Glycerophosphas ... ..	2 6
"    Hydrobromidum ... ..	254
"    "    Acidum ... ..	254
"    Hydriodidum ... ..	255
"    Hydrochloridum ... ..	255
"    "    Acidum ... ..	255
"    Hydrochloro Carbamidum ... ..	255
"    "    Sulphas ... ..	255

# INDEX.

	PAGE
Quininæ Hydrofluosilicas ... ..	255
" Iodas ... ..	255
" Iodidum ... ..	255
" Lactas ... ..	256
" Murias ... ..	255
" Phosphas ... ..	256
" Salicylas ... ..	256
" Sulphas ... ..	256
" " Acida ... ..	257
" " (Neutral) ... ..	257
" " Solubilis ... ..	257
" Sulphocarbolas ... ..	257
" Tannas ... ..	257
" Tartaras ... ..	257
" Valerianas ... ..	257
Quinoidina ... ..	99
Quinol ... ..	169
Quinoline... ..	99
" Salicylas ... ..	90
" Sulphocyanas ... ..	90
" Tartrato ... ..	90
Quinoral ... ..	258

## R

Radix Glycyrrhizæ ... ..	152
Randia ... ..	259
Raphidophora Vitensis ... ..	293
Reaumur Scales... ..	317
Rectified Ether ... ..	25
" Spirit ... ..	30
Red Bryony ... ..	73
" Bark... ..	97
" Cinchona Bark ... ..	97
" Gum ... ..	131
" Iodide of Mercury ... ..	161
" Oxide of Mercury ... ..	163
" Phosphorus ... ..	233
" Sandalwood ... ..	238
" Sanders Wood ... ..	268
Regnault's Anæsthetic ... ..	93
Rennet, Essence of ... ..	225
Residuum Rubrum ... ..	156
Resin of Kaladana ... ..	187
Resinol ... ..	259
Resorbin ... ..	258
Resorcin ... ..	259
" Monacetate ... ..	259

# INDEX.

	PAGE
Besorcin-phthalein-anhydride ... ..	143
Resorcinal ... ..	259
Retinol ... ..	259
Rhamni Frangulæ Cortex ... ..	260
„ Purshiani Cortex ... ..	87
Rhamnus Frangula ... ..	260
„ Purshianus ... ..	87
Rhigolene ... ..	33
Rhinacanthin ... ..	260
Rhinacanthus Communis ... ..	260
Rhus ... ..	261
„ Coriaria ... ..	261
„ Glabra ... ..	261
„ Toxicodendron ... ..	261
Richardson's Styptic Colloid ... ..	112
Rosaniline Monohydrochloride ... ..	44
Rosinal ... ..	259
Rose Iodoform Ointment ... ..	176
Roseine ... ..	44
Rouge ... ..	140
Rubidium ... ..	262
„ Ammon Bromidum ... ..	262
„ Bromidum ... ..	262
„ Iodidum ... ..	262
Rubini's Camphor ... ..	80
Rumicin ... ..	263
Rumex ... ..	262
„ Crispus ... ..	262
Russet ... ..	60

## S

Sabadine ... ..	301
Sabadinine ... ..	301
Saccharated Pepsin ... ..	226
Saccharinum ... ..	263
Saccharite of Cocaine ... ..	107
Sacred Bark ... ..	97
Safed Chandan ... ..	263
Safranino... ..	310
Safrol ... ..	201
Sal Alembroth ... ..	164
Sal Ammoniac ... ..	36
Salacetol ... ..	21
Salactol ... ..	14
Salicinum ... ..	264
Salicylamide ... ..	20
Salicylanilide ... ..	264

	PAGE
Salicyl-sulphonic Acid...	310
Salicyl-para-phenetidin ...	197
Salicylate of Ammonium ...	20
"    Antipyrin ...	229
"    Calcium ...	73
"    Camphor...	19
"    Cresol ...	12
"    Lithium...	194
"    Methyl ...	146
"    Quinine ...	256
"    Sodium ...	271
Salicylated Camphor Wool ...	19
"    Isinglass Plaster ...	17
Salicylic Acid ...	19
"    Camphor ...	19
"    Collodin ...	19
"    Cream...	19
"    Gauze ...	19
"    Lint ...	19
"    Ointment ...	19
"    Plaster Mulls ...	19
"    Silk ...	19
"    Suet ...	19
"    Wool ...	19
"    Aldehyd-Methyl-phenylhydrazine ...	20
Salicyl ...	234
Salicylous Alcohol ...	264
Salifobrin...	264
Saligenin ...	264
Saliphoic Acid ...	310
Salipyrin...	229
Salitannol ...	266
Salix Alba ...	264
"    Nigra ...	265
Salocoll ...	231
Salol ...	265
"    Camphor ..	81, 263
"    Coating Pills ...	266
"    Collodin ...	266
"    Gauze ...	266
Salolum ...	266
Salophen...	267
Salvo Petrolia ...	228
Salumini Insoluble ...	34
"    Soluble ...	34
Salt Digestive ...	220
Salufer ...	274
Salvo Mulls ...	209
"    Boric ...	5

	PAGE
Salve Mulls Carbolicised ... ..	9
„ Naphthol-Mercury ... ..	162
„ Zino ... ..	303
Samadera Indica ... ..	267
Samaderin ... ..	267
Sandal Wood ... ..	268
Sanguinaria Canadensis ... ..	267
Sanguinarin ... ..	267
Sanguinol ... ..	267
Sanitary Wood-Wool ... ..	243
Sanoform .. ..	267
Santali Oleum ... ..	267
Santalum Album ... ..	267
Santonate of Sodium ... ..	269
Santonica... ..	263
Santonin ... ..	268
Santoninoxim ... ..	269
Santoninum ... ..	268
Sappan Wood ... ..	74
Sapo Acidi Carbolicci ... ..	9
„ Creolin ... ..	179
„ Ichthyol ... ..	172
„ Kalinus ... ..	269
„ Lanolini ... ..	192
„ Mollis ... ..	269
„ Pini Pumilionis ... ..	242
„ Thymol ... ..	304
„ Viridis ... ..	269
Sassafras Officinale ... ..	201
Sassa Bark ... ..	128
Sawdust, Eucalyptus... ..	130
Saxin ... ..	264
Saxoline ... ..	232
Scheele's Green ... ..	57
Schmiddeberg's Digitalein ... ..	123
„ Digitalin ... ..	123
Sclerocaulon Officinale ... ..	301
Sclerotic Acid... ..	127
Sclerotin e Acid... ..	127
Scopola ... ..	271
„ Scopoides ... ..	270
„ Carniolica ... ..	270
„ Japonica... ..	270
Scopoleine ... ..	270
Scopolein ... ..	270
Scotch Fir ... ..	241
Sea Brack ... ..	143
Secale Cereale ... ..	125
„ Cornutum ... ..	125



# INDEX.

	PAGE
Secalin ... ..	237
Seidlitz Powders ... ..	277
Semecarpus Anacardium ... ..	41
Semen Physostigmatis... ..	236
Senna ... ..	270
„ Pods ... ..	271
Seunæ Legumina ... ..	271
Sesamum Indicum ... ..	222
Sesame ... ..	272
Siegesbeckia Orientalis ... ..	272
Silicate of Aluminium ... ..	188
„ „ Magnesium ... ..	188
„ „ Potassium... ..	277
„ „ Sodium ... ..	277
Silica-Fluoride of Sodium ... ..	274
Silk, Carbolised Ligature ... ..	7
„ Salicylic ... ..	19
Smelling Salts, Carbolised ... ..	9
„ „ Eucalyptus... ..	130
Smilax Sarsaparilla ... ..	213
Snauff, Capsicum ... ..	54
„ Ferrier's... ..	70
„ Salicylate of Sodium ... ..	276
Soap, Carbolic ... ..	9
„ Creolin ... ..	119
„ Ichthyol ... ..	173
„ Green ... ..	269
„ Lanolin ... ..	192
„ Pumilio Pine ... ..	242
„ Soft ... ..	269
„ Thymol ... ..	294
Sodii Arsenias ... ..	272
et Auri Chloridum ... ..	69
„ Benzoas ... ..	273
„ Bromidum ... ..	273
„ Carbolatis Lliquor ... ..	9
„ Chloras... ..	273
„ Cinamas ... ..	12
„ Citras ... ..	274
„ Cresotinas ... ..	275
„ Dithio-Salicylas ... ..	276
„ Ethylas ... ..	274
„ Fluoridum Purum ... ..	274
„ Fluosilicas ... ..	274
„ Hippuras... ..	274
„ Hypophosphis ... ..	235
„ Hyposulphis ... ..	274
„ Iodidum ... ..	275
„ Nitris ... ..	275

# INDEX.

	PAGE
Sodii Paracresotas ... ..	275
" Permanganas ... ..	249
" Peroxidum ... ..	168
" Phenatis Liquor ... ..	9
" Phosphas... ..	276
" " Effervescens ... ..	276
" " Exsiccata ... ..	276
" Polyhoras ... ..	47
" Salicylas... ..	276
" Salicyl-sulphonas ... ..	276
" Santouas ... ..	269
" Santoninas ... ..	269
" Silicas ... ..	277
" Sulphanilas ... ..	21
" Sulphas ... ..	277
" Sulphas Effervescens ... ..	277
" Sulphethylas ... ..	278
" Sulphis ... ..	275
" Sulphocarbolas ... ..	278
" Sulpho Ichthyolas ... ..	173
" Sulpholeate ... ..	278
" Sulpho-ricinoideas ... ..	216
" Sulphovinas ... ..	278
" Taurocholas ... ..	278
" Telluras ... ..	278
Solfum ... ..	272
" Caffeine Iodide ... ..	177
" " Sulphonate... ..	273
" Ichthyol ... ..	173
" Sozoiodol ... ..	279
" Tangstate Pellets ... ..	311
Soft Bark ... ..	94
" Paraffin ... ..	221
Solid Paraffin ... ..	221
Solphiuol ... ..	278
Solable Glass ... ..	277
" Phenyle... ..	119
" Saccharin ... ..	283
Solutio Sodii Phenatis ... ..	9
Solvine ... ..	216
Sematoe ... ..	84
Somnal ... ..	300
Sonstadt's Solution ... ..	314
Sozoiodol ... ..	279
Sozolic Acid ... ..	10
Spacelotoxin ... ..	127
Sparteine Sulphas ... ..	279
Sparteine ... ..	279
Spasmotin ... ..	127

# INDEX.

	PAGE
Specific Gravity of Urine ... ..	803
Sp-igler's Test ... ..	311
Spermine ... ..	242, 230
"    Hydrochloridum ... ..	230
Sphagnum ... ..	230
Spindle Tree ... ..	133
Spirit of Tar ... ..	245
Spiritus Ætheris ... ..	26
"    "    Compositus... ..	26
"    "    Nitrosi ... ..	26
"    Ammoniae Aromaticus ... ..	38
"    "    Foetidus ... ..	38
"    Camphoræ ... ..	80
"    Cinnamomi ... ..	101
"    Chloroformi ... ..	93
"    Gaultheriæ ... ..	145
"    Methylatus ... ..	30
"    Myrcia ... ..	30
"    Nucis Juglandis ... ..	187
"    Rectificatus (see Alcohols)... ..	30
"    Thymol ... ..	294
Spirone ... ..	30
Sponges, Artificial ... ..	153
Sprays, see Nebulæ.	
Squaw Root ... ..	83
Staphisagriæ Oleum ... ..	281
"    Semina ... ..	280
Stavesacre Seed ... ..	260
Stearate of Lead... ..	216
Stearone ... ..	222
Steel Drops ... ..	139
Stercoria Acuminata ... ..	190
"    Cordifolia ... ..	190
Stevens' Anticholera Powder ... ..	274
Stigmata of Malze ... ..	193
Stillingia ... ..	231
"    Sylvatica ... ..	281
Stillingin ... ..	281
Stillingine ... ..	281
Styptic ne .. ..	208
Stone Root ... ..	110
Stramonii Folia ... ..	232
"    Semina ... ..	282
Stramonium ... ..	262
Strontium ... ..	282
Strontii Bromidum ... ..	253
"    Carbonas ... ..	283
"    Iodum ... ..	243
"    Lactas ... ..	283

# INDEX.

	PAGE.
Strontii Salicylas ... ..	283
Strophanthidin ... ..	284
Strophanthin ... ..	284
"    Tannas ... ..	284
Strophanthus ... ..	283
"    Hispidus ... ..	282
Strychnia... ..	284
Strychnina ... ..	284
Strychniæ Acetas ... ..	285
"    Arsenas ... ..	285
"    Hydrobromidum ... ..	285
"    Hydrochloridum ... ..	285
"    Nitras ... ..	285
"    Phosphas ... ..	236
"    Sulphus ... ..	286
"    "    Acida ... ..	236
Strychnos Colubrina ... ..	268
Strychnos Ignatii ... ..	286
"    Ligustrina... ..	286
"    Nux Vomica ... ..	286
Styptic Colloid ... ..	112
"    Lint ... ..	139
"    Wool ... ..	139
Subjee ... ..	82
Subgallate of Bismuth ... ..	69
Sublimate Gauze ... ..	164
"    Lint ... ..	164
"    Lotiforms ... ..	164
"    Wood-wool ... ..	164
"    Wool ... ..	164
Sublimed Sulphur ... ..	287
Succinato of Ammonium ... ..	38
"    "    Iron ... ..	142
"    "    Potassium ... ..	203
Succinimide of Mercury ... ..	165
Succus Acalphæ ... ..	4
"    Alterans... ..	281
"    Andrographis Concentratus ... ..	190
"    Belladonnæ ... ..	64
"    Cinorariæ ... ..	97
"    Galii ... ..	144
"    Papayæ ... ..	221
"    Rhinacanthi ... ..	261
Sucrol ... ..	204
Suet, Salicylic ... ..	19
Sugar-coated Pills ... ..	211
"    Tests for, in Urine ... ..	309
Sugarino... ..	204
Sulphaldehyde... ..	223

# INDEX.

	PAGE.
Sulphaminol ... ..	253
Sulphanilic Acid ... ..	21
Sulphanilate of Sodium ... ..	21
Sulphates, Syrup of ... ..	79
Sulphethylate of Sodium ... ..	273
Sulphocarbolate, of Quinine... ..	257
"    "    Sodium ... ..	278
"    "    Zinc ... ..	307
Sulpho-carbolic Acid ... ..	10
Sulphocyanide Test ... ..	311
Sulpho-ichthyolate of Ammonium ... ..	172
"    "    Lithium ... ..	172
"    "    Sodium ... ..	173
"    "    Zinc ... ..	173
Sulpho-ricinolate of Sodium ... ..	213
Sulphonal ... ..	235
Sulphovinate of Sodium ... ..	278
Sulphur ... ..	287
Sulphur Precipitatum ... ..	288
"    Sublimatum... ..	288
Sulphuris Chloridum... ..	288
Sulphurated Lime ... ..	79
Sulphurated Hydrogen ... ..	79
Sulphuric Ether ... ..	25
Sumach ... ..	261
"    Sweet ... ..	261
Sumak ... ..	261
Sundew ... ..	123
Suppositoria Belladonnæ ... ..	64
"    Chloral ... ..	92
"    Cocaine ... ..	104
"    Glycerini ... ..	150
"    Iodoformi ... ..	175
"    Morphinæ ... ..	205
"    "    cum Sapo ... ..	205
Suppositories, Peptonised Beef ... ..	226
Sweet Sumach ... ..	261
"    Vernal Grass ... ..	44
Swertia Chirata ... ..	91
Synond's Syrup of Sulphates ... ..	79
Symphoral N. L. and S. ... ..	273
Synthetic Carbolic Acid ... ..	6
Syrupus Acidi Hydriodici ... ..	189
"    Apomorphinæ Hydrochloridum ... ..	60
"    Butyl-Chloral ... ..	73
"    Calcii Hypophosphitis ... ..	234
"    "    Lactophosphitis ... ..	14
"    "    et Ferri Lactophosphatis ... ..	14
"    "    Magnesii et Potassi Hypophosphiti ..	235

# INDEX.

	PAGE.
Syrupus Cascara Sagrada ... ..	88
" " Aromat ... ..	89
" Chloral ... ..	92
" Codinæ ... ..	110
" Eriodictyi Aromaticus ... ..	303
" Ferri Bromidi ... ..	137
" " cum Strychina ... ..	137
" " et Quininae Hydrobromatum ... ..	137
" " Quininae et Strychinnae Hydrobromatum	137
" " Hypophosphitis ... ..	235
" " Iodidi... ..	138
" " Lactatis ... ..	139
" " Phosphatis .. ..	141
" " " Compositus (Chemical Food)	141
" " " cum Magnesio ... ..	141
" " " cum Quinina et Strychina	
" " " (Easton's Syrup) ... ..	141
" " et Quininae Citratiss ... ..	254
" " Quininae et Strychinnae Phosphatum ...	141
" " Glucosi ... ..	140
" Hypophosphitum Compositus ... ..	235
" Ipecacuanhae Aceticus ... ..	182
" Picis Liquidæ ... ..	245
" Pruni Virginianæ ... ..	250
" Rhamni Frangulae ... ..	260
" Sennæ... ..	271
" Sodii Hypophosphitis ... ..	235
" Sulphatum ... ..	70
" Trifolii ... ..	297
" " Compositus ... ..	297
Syzygium Jambolanum ... ..	185

## T

Tabellæ ... ..	288
" Ammonii Chloridi ... ..	36
" Antipyrin ... ..	228
" Cocainæ ... ..	106
" Nitroglycerini ... ..	213
" Saccharini ... ..	263
" Strophanthi ... ..	284
" Trinitrini Compositæ ... ..	213
" Zymini ... ..	218
Tablet Triturates ... ..	289
Tablets, Antiseptic ... ..	164
Hypodermic Acid Sclerotic ... ..	127

# INDEX.

	PAGE.
Tablets Hypodermic Apomorphine ... ..	50
"    "    Atropine ... ..	59
"    "    " with Morphine ... ..	59, 205
"    "    Caffeine ... ..	76
"    "    Cocaine ... ..	107
"    "    Codeine Phosphate ... ..	109
"    "    Colchicine ... ..	110
"    "    Cornutine ... ..	127
"    "    Curare ... ..	120
"    "    Digitalin ... ..	123
"    "    Ergotinine ... ..	127
"    "    Homatropine ... ..	60
"    "    Hyoscine ... ..	171
"    "    Hyoscyamine ... ..	171
"    "    Mercury Perchloride ... ..	161
"    "    Morphine Meconate ... ..	205
"    "    " Sulphate ... ..	205
"    "    " with Atropine ... ..	205
"    "    Pilocarpine ... ..	185
"    "    Physostigmine ... ..	237
"    "    Quinine Hydrobromidum ... ..	255
"    "    Sparteine Sulphate ... ..	280
"    "    Strophanthin ... ..	284
Tablets, Hypodermic Strychnine ... ..	285
Taka-Diastase ... ..	198
Talc ... ..	188
Tampons, Vaginal ... ..	153
Tannal... ..	35
Tannalbin ... ..	289
Tannapin ... ..	289
Tannate of Cannabin ... ..	83
Tannoform ... ..	289
Tannone ... ..	289
Tar ... ..	244
" Ointment ... ..	245
" Water ... ..	245
Tartarated Iron ... ..	142
Tasteless Aperient Salt ... ..	276
" Cascara Sagrada ... ..	88
Taurocholate of Sodium ... ..	278
Tea ... ..	75
Velv ... ..	146



# INDEX.

	PAGE.
Tellicherry Bark ... ..	158
Tellurate of Potassium ... ..	250
Terechloride of Formyl ... ..	94
Terebena Pura ... ..	289
Terebene ... ..	289
Terebinthina Chia ... ..	290
Terminalia Chebula ... ..	291
Terpene Hydrate ... ..	290
Terpin Hydrate ... ..	290
Terpinol ... ..	290
Torra Cimodia ... ..	188
Terraline ... ..	222
Terrol ... ..	222
Terroline ... ..	222
Tertiary Amyl Alcohol ... ..	40
"    Nitrite ... ..	40
Test Papers ... ..	312
Testing, General ... ..	313
"    Urinary ... ..	308
Tetano-Cannabine ... ..	83
Tetrahydroparamethyloxychinoline ... ..	291
Tetra-Iodo-Pyrrol ... ..	177
Tetra-Iodo-Phenolphthaleine ... ..	213
Tetra-Nitro-Cellulose ... ..	252
Tetranitriu ... ..	127
Tetronal ... ..	287
Thallinæ Sulphas ... ..	291
Thalline ... ..	291
"    Periodidum ... ..	291
"    Sulphate ... ..	291
"    Tartrate ... ..	291
Theine ... ..	75
Theobroma Cacao ... ..	292
Theobromina ... ..	292
Theobromine Sodio-Salicylate ... ..	292
Therapeutic Index ... ..	318
Thermifugin ... ..	292
Thermodin ... ..	212
Thermometric Scales ... ..	317
Theophylline ... ..	292
Thialdehyde ... ..	223

	PAGE.
Thiersch's Antiseptic Solution ... ..	5
Thilamin ... ..	192
Thiocol ... ..	118
Thioform ... ..	70
Thiol ... ..	173
Thiophen Diiodide ... ..	293
Thiosinamine ... ..	293
Thio-oxydiphenylamine ... ..	288
Thioresorcin ... ..	259
Thuja Occidentalis ... ..	293
Thyme... ..	293
Thymol ... ..	293
Thymol-Acetate of Mercury ... ..	166
Thymolite ... ..	188
Thymus Gland ... ..	295
"    Vulgaris ... ..	293
Thyroid Gland ... ..	295
Thyroideum Siccum... ..	295
Thyroidin ... ..	295
Thymylic Alcohol ... ..	293
Thymoform ... ..	294
Tinctura Aconiti ... ..	22
"    "    (Fleming) ... ..	22
"    "    (Turnbull) ... ..	22
"    Adonidis ... ..	24
"    Agarici ... ..	29
"    Alettris ... ..	32
"    Alstoniæ ... ..	32
"    "    Constrictæ ... ..	33
"    Ammonia Composita ... ..	38
"    Anacardii ... ..	41
"    Andrographis Composita ... ..	190
"    Anthoxanthi Odoratum... ..	44
"    Apocyni ... ..	49
"    Azadirachtæ ... ..	61
"    Belladonnæ ... ..	64
"    "    Ætherea ... ..	64
"    Berberis ... ..	66
"    Bhawcheo... ..	67
"    Boldo ... ..	71
"    Bryoniæ ... ..	73
"    Calendulæ Florum ... ..	80

	PAGE.
Tinctura Camphoræ Composita ...	80
„ Cannabis Indicæ...	83
„ Cantbarides ...	84
„ Capsici ..	84
„ „ Fortior ...	84
„ „ Ætherea ...	84
„ Chloroformi Composita...	96
„ „ et Morphinæ ...	96
„ Cimicifuga ...	97
„ Cinchonæ ...	99
„ „ Composita ...	99
„ Cinnamomi ...	101
„ Collinsoniæ ...	111
„ Condurango ...	112
„ Convallariæ ...	114
„ Coto ...	115
„ Daturæ ...	282
„ Droseræ ...	123
„ Elaterii Co. ...	124
„ Ergotæ Ammoniata ...	126
„ Erythrophlei ...	128
„ Eucalypti Foliorum ...	129
„ Euonymi ...	133
„ Euphorbiæ Piluliformæ ...	134
„ Ferri Acetatis ...	136
„ „ „ Ætherca ...	136
„ „ Perchloridi ...	139
„ Ferri Pomata ...	136
„ Gelsemii ...	148
„ Gossypii ...	153
„ Guaiaci Ammoniata ...	39
„ Guaraniæ ...	155
„ Gummi Rubri ...	132
„ Holarrhenæ Seminum ...	158
„ Hydrastis ...	166
„ Iodi ...	179
„ „ Ætherea ...	180
„ „ Decolorata ...	180
„ „ „ Fortior ...	180
„ „ Oleosa ...	180
„ Iodinci, P. E. ...	180

	PAGE.
Tinctura Jaborandi...	186
„ Jalapæ ...	184
„ Kaladanæ...	183
„ Laxativa ...	88
„ Lupuli ...	195
„ Lupulini ...	195
„ Lycopodii ...	193
„ Martis ...	142
„ Menthol Ætherea ...	209
„ Mugreiaë ...	212
„ Naregamiaë ...	183
„ Nigellaë ...	212
„ Phosphori Composita ...	233
„ Physostigmatis ...	237
„ Phytolaccae ...	238
„ Podophylli ...	247
„ „ Ammoniata ...	247
„ „ (Dobell's) ...	247
„ Pomi Ferrati ...	136
„ Prunus Virginianæ ...	250
„ Pulsatillaë...	251
„ Quebracho ...	252
„ Quiniaë ...	255
„ „ Ammoniata ...	257
„ Rhois ...	261
„ Rumicis ...	262
„ Saponis Viridis ...	269
„ Scopolæ ...	270
„ Sennæ ...	271
„ Siegesbeckiaë ...	272
„ Strophauthi ...	284
„ Thujaë ...	293
„ Valerian : ammoniata ...	39
Tincture of Phenol-phthalein ...	314
„ Steel ...	139
„ Warburg's ...	257
Tinctures, Ethereal...	85
Tinnivelly Senna ...	270
Tinospora Cordifolia ...	205
Tissue, Gaugee's ...	146
„ Gauze and Cotton-Wool ...	146

	PAGE.
Toddalia aculeata ... ..	296
Tolypyrine ... ..	296
„ Salicylate ... ..	296
Tolysal ... ..	296
Touchwood ... ..	28
Tong-Pang-Chong ... ..	230
Tonga .. ..	296
Tonic Laxative Granules ... ..	64
„ Liver Granules ... ..	247
Tonka Beans ... ..	115
Tow, Carbolised .. ..	7
Tribromo-acetic-ortho-Aldehyde ... ..	71
Tribromhydrin ... ..	32
Tribromo-Methane ... ..	72
Tribromphenol ... ..	9
Tribromo-Propane ... ..	32
Tribulus Terrestris ... ..	152
Trichloracetic Acid ... ..	11, 311
Trichloraldehyde-phenyl-dimethyl-pyrazole ... ..	171
Trichlorethylidene Glycol ... ..	91
Trichloro-Methane ... ..	94
Trichlorophenic Acid... ..	10
Trichlorophenol ... ..	10
Trifolio ... ..	183
Trifolium ... ..	297
„ Pratense ... ..	297
Triformol ... ..	31
Trikesol ... ..	12
Trimethyl-Acetyl-Colchicine Acid ... ..	110
Trimethylamine ... ..	297
„ Hydrochloride ... ..	297
Trimethylamina ... ..	297
Trimethylaminæ Hydrochloridum ... ..	297
Trinitrin ... ..	212
Trinitro-celluloso ... ..	252
Trinitro-phenic Acid .. ..	16
Trinitro-phenol ... ..	16
Trional ... ..	287
Trioxymethylene ... ..	31
Tristearin ... ..	145
Trithialdehyde ... ..	223
Triticum ... ..	298

	PAGE
Triticum Repens ... ..	298
Trochisci Acidi Benzoici ... ..	4
"    "    Carbolici ... ..	10
"    Ammonii Bromidi ... ..	36
"    "    Chloridi ... ..	35
"    Antacidi ... ..	70
"    Bismuthi composita ... ..	70
"    Camphoræ ... ..	80
"    Cascara Sagraida ... ..	88
"    Cocainæ Hydrochloridum ... ..	107
"    Codeinæ ... ..	110
"    Eucalypti Compositi ... ..	132
"    Ferri Carbonatis Saccharatæ ... ..	138
"    "    Redacti ... ..	136
"    Fructus Aperientes ... ..	260
"    Gummi Rubri ... ..	132
"    Ipecacuanhæ ... ..	182
"    Morphinæ ... ..	205
"    "    et Emetin ... ..	183
"    "    et Ipecacuanhæ ... ..	205
"    Papain et Cocainæ ... ..	220
"    Phenacetini ... ..	227
"    Santonini ... ..	269
"    "    et Calomelanos ... ..	269
"    Sodii Chloratis ... ..	274
"    Sulphonali ... ..	287
"    Sulphuris ... ..	288
Tropa-cocaine ... ..	108
Tropæoline OO ... ..	314
Tropeines ... ..	58
Tropic Acid ... ..	58
Tropine ... ..	58
True Unicorn ... ..	31
Trypsin ... ..	218, 220
Tumenol ... ..	173
"    Oil ... ..	173
"    Powder ... ..	173
Turbith ... ..	298
Turkey Red Oil ... ..	216
Turnera Aphrodisiaca ... ..	121
Turner's Cerate ... ..	304

	PAGE.
Turpentine Camphor	290
Turpentine, Oil of	241
„ „ French	232
Turpeth	298
„ Mineral	165
Turpethic Acid	298
Turpethin	298
Turpetholic Acid	298
Turpethum	298
Tussol	229
Tylophora Asthmatica	298
Tympana, Artificial	111

## U

Ulex Europæus	299
Uloxina	299
Ulexinæ Hydrobromidum	299
„ Hydrochloridum	299
„ Nitras	299
Ultra-Quinine	98
Unguentum Acidi Borici	5
„ „ Carbolici	10
„ „ Pyrogallici	17
„ „ Salicylici	19
„ Aconitinæ	23
„ Anacardii	41
„ Aristol	55
„ Atropinæ	58
„ Belladonnæ	61
„ Bismuthi	70
„ Calaminæ	304
„ Capsici	85
„ Chrysarobini	52
„ Cantharides	84
„ „ Co...	52
„ Cocainæ	105
„ Cocculi	240
„ Crocasi	116
„ Deplinæ	281
„ Diachyli	216
„ Eucalypti	130



# INDEX

	PAGE.
Unguentum Gaultheriæ ... ..	145
„ Glycerini Plumbi Subacetatis ... ..	150
„ Gynocardia ... ..	155
„ Hamamelidis ... ..	157
„ Hydrargyri ... ..	159
„ „ Ammoniaci ... ..	160
„ „ Compositum ... ..	159
„ „ Iodidi Rubri ... ..	161
„ „ „ Dilutum ... ..	161
„ „ „ Viridis ... ..	162
„ „ Nitratis ... ..	163
„ „ „ Dilutum ... ..	163
„ „ Oleati ... ..	215
„ „ Oxidi Flavi ... ..	163
„ „ „ Rubri ... ..	163
„ „ Persulphatis ... ..	165
„ „ Subchloridi ... ..	165
„ Icthyol ... ..	173
„ Iodi ... ..	178
„ Iodoformi ... ..	176
„ „ cum Atropina ... ..	176
„ „ et Eucalypti ... ..	176
„ „ Roseatum ... ..	176
„ Kaolin ... ..	188
„ Naphtholi ... ..	210
„ Olei Cadini ... ..	245
„ Olco-Resinae Capsici ... ..	85
„ Ozonicum ... ..	168
„ Paraffinum ... ..	221
„ Picis Liquida ... ..	245
„ Picrotoxini ... ..	240
„ Pyrogallol Co. ... ..	17
„ Salol c. Cocaine ... ..	266
„ Scopolæ ... ..	270
„ Staphisagriae ... ..	281
„ Sulphuris ... ..	288
„ „ Compositum ... ..	288
„ „ Hypochloritis ... ..	288
„ „ Iodidi ... ..	288
„ Thymol ... ..	294
„ Vasellini Plumbicum ... ..	216

	PAGE
Unguentum Veratrinae ... ..	302
„ Zinci ... ..	306
„ „ Compositum ... ..	306
„ „ Oleati ... ..	216
Ural ... ..	300
Uralium ... ..	300
Uranii et Quinine Chloridum ... ..	299
Uranii Nitrates ... ..	299
Urates ... ..	309
Urea Quinine ... ..	258
Urea Test ... ..	312
Urethane ... ..	300
Uric Acid ... ..	309
Urinary Colour Tables ... ..	308
„ Sediments ... ..	309
„ Testing ... ..	308
Urinometers ... ..	308
Uropherin ... ..	195
Urotropin ... ..	300
Ursal ... ..	301
Ustilago Maidis ... ..	301

V

Vaginal Tampons ... ..	153
Vaiivarung ... ..	124
Valentine's Meat Juice ... ..	86
Valerianate of Amononium ... ..	38
Valeriana of Atropine ... ..	59
„ Iron ... ..	113
„ Quinine ... ..	257
„ Zinc ... ..	307
Validolum ... ..	200
Vanilla ... ..	301
„ Planifolia ... ..	301
Vanillic Acid ... ..	301
Vanillin ... ..	301
Vapor Acidi Carbolici ... ..	10
„ Aldehydi ... ..	31
„ Coninae ... ..	113
„ Creasoti ... ..	116

	PAGE.
Vapor Eucalypti ... ..	130
" Iodi ... ..	178
" " Ætherialis ... ..	180
" Olei Pini Sylvestris ... ..	241
" Terebenæ ... ..	290
" Thymol ... ..	291
Varnishing Pills ... ..	240
Vaseline ... ..	222
Vaselinum ... ..	222
" Album ... ..	222
" Atropinæ ... ..	59
" Cocainæ ... ..	105
" Hydrarg. Perchlor ... ..	164
" Iodoformi ... ..	176
Vaselone ... ..	222
Vasogene ... ..	222
Vegetable Mercury ... ..	258
Vellarin ... ..	172
Venetian Tale ... ..	191
Veratria ... ..	301
Veratrina ... ..	301
Veratrol ... ..	302
Verbena Oil ... ..	42
Veronica Virginia ... ..	192
Viburnum Fœtidum ... ..	302
" Prunifolium ... ..	302
Vienna Paste ... ..	221
Vinolia ... ..	192
Vinum Carnis ... ..	86
" " cum Ferro ... ..	86
" Cocæ ... ..	103
" Condurango ... ..	112
" Ferri ... ..	136
" " Citratis ... ..	138
" " Glycerophosphas ... ..	235
" " Malas ... ..	136
" Iodi ... ..	180
" Ipecacuanhæ ... ..	182
" Pepsinæ ... ..	226
" Quininæ ... ..	255
Vitis Alba ... ..	72

# INDEX.

	PAGE.
Violet Powder ... ..	189
Volcania Ammoni ... ..	35
Volekman's Solution ... ..	294

## W

Wahoo Bark ... ..	135
Walnut ... ..	187
Warburg's Tincture ... ..	257
Warming Plaster ... ..	83
Water Glass ... ..	277
Weaver's Periodates ... ..	181
Weights and Measures ... ..	315
Whin ... ..	299
White Agaric ... ..	28
" Arsenic ... ..	56
" Bismuth ... ..	69
" Bryony ... ..	72
" Fuller's Earth ... ..	188
" Peat ... ..	189
" Precipitate ... ..	160
" Quebracho ... ..	252
" Vaseline ... ..	222
" Walnut ... ..	187
Wild Cherry Bark ... ..	250
Wild Indigo ... ..	62
Wilkinson's Ointment ... ..	288
Willow Bark ... ..	264
Wines, <i>see</i> Vina.	
Wintergreen Oil ... ..	145
Witch Hazel ... ..	157
" Bark ... ..	157
Withania Congulans ... ..	302
Wood Naphtha ... ..	30
" Oil ... ..	61
" Tar ... ..	244
" Wool, Sanitary ... ..	242
" " Sublimated ... ..	164
" " Wadding ... ..	242
Wool, Alembroth ... ..	165
" Boric ... ..	5

						PAGE.
Wool	Carbolised	...	...	...	...	7
„	Eucalyptus	...	...	...	...	130
„	Fat	...	...	...	...	191
„	Fir	...	...	...	...	242
„	Iodised	...	...	...	...	180
„	Iodoform	...	...	...	...	173
„	Salicylated Camphor	...	...	...	...	19
„	Salicylic	...	...	...	...	18
„	Sublimated	...	...	...	...	164
„	Thymol	...	...	...	...	294

*See also Cotton and Gossypium.*

Wound Pads	...	...	...	...	...	153
Wourara	...	...	...	...	...	120

## X

Xylene	...	...	...	...	...	303
Xylol	...	...	...	...	...	303
Xanthine	...	...	...	...	...	75
Xanthoxylum Carolinianum	...	...	...	...	...	281
Xeroform	...	...	...	...	...	

## Y

Yellow Bark	...	...	...	...	...	97
„ Dock	...	...	...	...	...	262
„ Iodide of Mercury	...	...	...	...	...	162
„ Jasmine	...	...	...	...	...	148
„ Oxide of Mercury	...	...	...	...	...	163
„ Parilla	...	...	...	...	...	199
„ Puccoon	...	...	...	...	...	166
„ Root	...	...	...	...	...	166
„ Santal Oil	...	...	...	...	...	267
„ Yerba Santa	...	...	...	...	...	303

## Z

Zea Mays	...	...	...	...	...	196
Zinc-Sozoiodol	...	...	...	...	...	279

	PAGE
Zinei Acetas ... ..	304
„ Boras ... ..	304
„ Bromidum ... ..	304
„ Carbonas ... ..	304
„ Chloridum ... ..	305
„ Citras ... ..	305
„ Cyanidum ... ..	305
„ Gelatum ... ..	147
„ Hypophosphites ... ..	305
„ Lactas ... ..	305
„ Nitras ... ..	305
„ Oleas ... ..	216
„ Oxidum ... ..	306
„ Permanganas... ..	306
„ Phenol Para Sulphonate ... ..	307
„ Phosphidum ... ..	303
„ et Potassii Cyanidum ... ..	305
„ Subgallas ... ..	306
„ Sulphas ... ..	306
„ Sulphis ... ..	307
„ Sulphocarbolas ... ..	307
„ Sulpho-ichthyolas ... ..	173
„ Valerianas ... ..	307
Zinco Hæmal... ..	157
Zincum ... ..	308
Zymine... ..	213







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